The Graphic Arts Monthly

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Printing Engineers in Third Conference

By OUR STAFF CORRESPONDENT

Practical Men Confer on Printers' Daily Production Problems

THE GRAPHIC ARTS INDUSTRY as a whole has no research organization devoted to solving the problems encountered in its different trades; it has the Lithographic Technical Foundation, to be sure, doing excellent work for the lithographers; but naturally what is organized and paid for by one branch of the industry will devote all its time and energy to the solution of the problems of its sponsors.

But as a substitute we have of late years had the services of the technical experts of the industry, the printing engineers, so to speak; and they are doing a great work, to put it mildly.

On March 14-15 this group of experts met in New York City as the guests of the McGraw-Hill Publishing Company for its third annual conference and discussion of the printing problems of the day, sponsored by the Printing Industries Division of the American Society of Mechanical Engineers. The sessions and group meetings were well attended, the discussions lively and comprehensive, and the themes well chosen and practical in every respect.

Naturally when a group of men of this caliber come together, everything pertaining to the meeting is arranged in proper and systematic order. The program is made up and discussion leaders chosen long before the gathering, and some of the papers printed and distributed well in advance. This practice was followed this year; eleven papers were made up into a booklet of thirty-two well-printed pages and distributed to a select list. These papers (and others not ready at the time of printing) were used as a basis for the discussion at the meeting; but other discussions may be submitted up to April 1 and will be printed in the Transactions of the society. Thus a comprehensive summary of the deliberations of the conference is assured.

Scientific Management

The first paper was submitted by George C. Van Vechten, plant superintendent of the Stecher Lithographing Company, Rochester, and chairman of the Printing Industries Division of the American Society of Mechanical Engineers. His theme was "Application of Engineering to the Printing Industry."

"Management," said the speaker, "is that positive driving force which causes natural resources to be fabricated, workers to labor, capital to be invested; that force which creates industries, agriculture, and other enterprises that man may be elevated to higher ideals; the promotion of the arts and sciences and of culture and knowledge that a higher standard may be realized by mankind.

"Without management to distribute the results of labor and materials effectively, the performance may become so uneconomic as to cease entirely."

Then he showed how engineering principles could be applied to help management in its many forms and how these engineering principles originated with Frederick W. Taylor in 1878. "The fundamentals of management founded by Taylor consisted of a careful study of the elementary operations involved in the production of an article. These elementary operations were classified, recorded, and indexed by means of the data available. A job is divided into its components and standards set up. Summing up these

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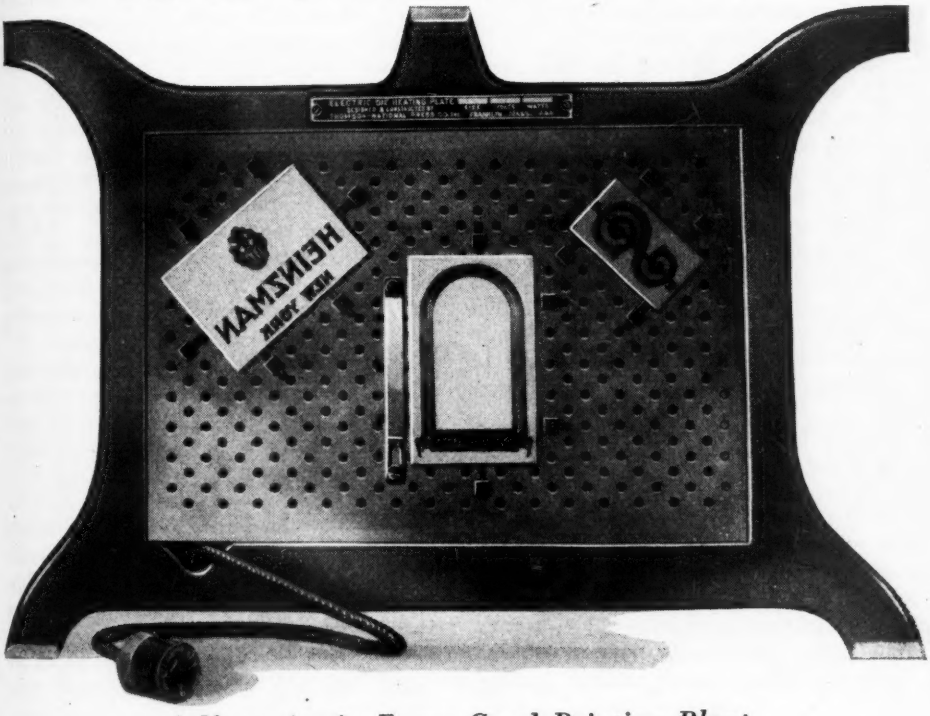

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standards, the time required to perform the job is found, eliminating guesswork such as existed under the old piecework system." In other words, to adapt research to production problems.

"Our industries for many decades have functioned under the supervisory system, and we relied on the supervision of the foreman or other executives to assure management that the worker was producing a standard task, resulting in an expensive system requiring an unnecessary amount of indirect labor.

"Management utilized the old piecework system to stimulate greater production on the part of the worker. This was not popular, for the reason that past performance was used as a basis of measurement of effort.

"The supervisory system depends on the foreman and his good judgment, together with his ability to suggest better methods and reduction in lost time. The worker did not have any appeal to stimulate his imagination and creative ability; consequently, much valuable effort was lost.

"Plant layout not only concerns the new plant which is in development; it also involves the plant which is in existence at the present time. In designing a new plant the buildings should be so arranged that the raw material will be received at one end of the institution and the finished product delivered from the last operation at the other end.

"The receiving point should provide ample storage for the proper amount of raw material consistent with the inventory control in use. If air-conditioning equipment is available, this will be a great asset, resulting in a reduction of lost time in the pressroom and better quality. The incoming paper should be received on skid platforms providing for handling by tier lift electric trucks in the large plant and by hand trucks in the small plant.

"Paper received in rolls can be handled by special electric trucks and the raw material delivered to the pressroom on skids according to schedule board and paper move order. The skidloads of paper should be arranged ahead of each press, parallel with the pressfeeder to eliminate unnecessary rehandling and backlash. This systematic procedure should be followed from the time the raw material is received until the final operations are completed ready for shipment.

"A straight-line flow of goods in process should be the ideal, and this can be accomplished with reservations in most any plant with some readjustments and minor alterations depending on conditions.

"Proper flow of goods in process will automatically reduce indirect labor and reduce manufacturing costs. The machinery should be arranged to eliminate rehandling of materials and for the convenience of the workers.

"Ratios for printing management for 1930 state that 74.4 per cent of the cost of printing concerns factory operating costs, and of this labor represents 29.9 per cent. This investment is a large item of operating expense, and the greatest return on this investment should be realized. Recently a new windowless plant was designed and erected, in which every consideration was given to illumination, ventilation, and sanitation for the welfare of the employes. If we expect a maximum production for our expense dollar, healthful and pleasant surroundings should be provided.

"It is costly to have products which are being manufactured retrace their steps through the factory building. It is also expensive to utilize buildings having many floors, where it is necessary to transport heavy products for manufacture up and down. Millions of dollars' worth of materials are unnecessarily handled in American industry which could be avoided.

"Factors that govern plant layout are size and type of factory building, location, balance of departments, transportation, internal and external, heat, light, power, ventilation and future expansion."

Thus he covered practically every problem up to the management of a printing

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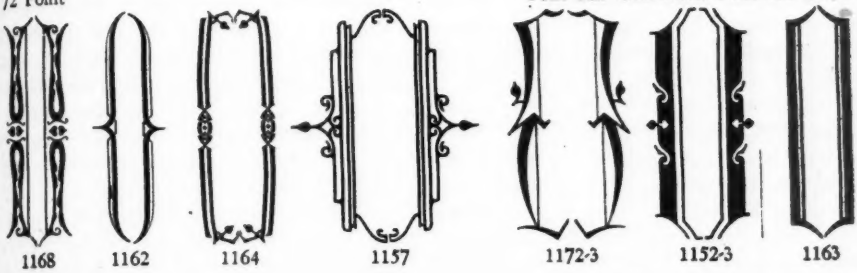

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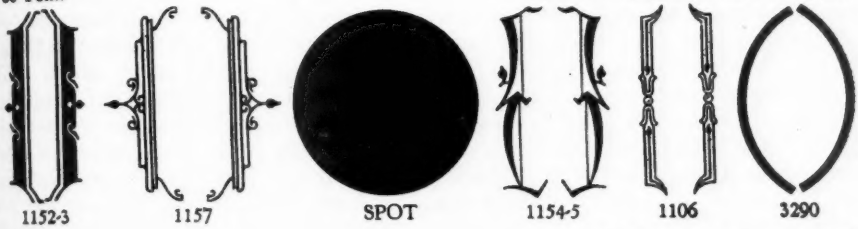

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plant and showed how engineering principles might advantageously be applied.

The discussion was opened by Charles W. Kellogg, manager of the engineering department of the American Type Founders Company, who claimed that industrial engineering has a definite place in the future of the printing industry.

"The changed conditions we find confronting us are most surely developing the need of scientific management," said Mr. Kellogg; "and with this scientific management comes the urgent need of men more technically trained—men that are capable of analyzing methods of production to a point that will insure a more intelligent operation. It is easy to believe that with the quickening of business there should be thousands of good positions opened to technically trained men who have scientific knowledge of the various fundamental principles which are applicable to the business—men who know the latest developments; men who can take your problem and apply to it the latest data and the best research methods.

"Now more than ever before science is called upon to pave the way to business prosperity, and I am convinced that the success of the printing industry, especially in the future, will depend upon the extent to which it applies science and engineering to its problems."

Proper Lighting

W. N. P. Reed of Big Six (typographical union), New York, discussed proper lighting of the workrooms.

"I speak," he said, "not as a technician, but present briefly for consideration the desirability of certain modifications in the present practices with regard to the use of light in the printing and publishing industries. For printshop work, for reading manuscripts, copy reading, editing, drafting and retouching, composition on linotype or monotype, make-up, imposition, presswork, bindery operations, and mailing, artificial light, critically and scientifically standardized for special needs and applications, is markedly superior to any plan for using natural or reflected light yet devised—sunlight or cloud-light. And I will go so far as to maintain that those who hold otherwise and who possess the authority to put their theories into practical applications, not only make work more difficult and thus more costly to all concerned, but, incidentally, create an exceedingly wasteful and psychologically objectionable situation.

"No editor, copy reader, draftsman, accountant, typist, printer, proofreader, or make-up man (I am not referring to stonemen, but to make-up men, excluding, of course, newspaper make-up) can work in comfort and with maximum efficiency with a light, whatever its type, 6, 10, or 20 feet distant from him and his work, whatever the power.

"Light should illuminate in a very special manner all of the tasks involved in printing and publishing. It should focus on our jobs, make them stand out, make them call to us psychologically for attention and for accomplishment. Only the desk lamp, gooseneck or other, will do this to maximum effect. A 25-watt lamp, or at most a 40- or a 50-watt globe, focused on one's work, is more efficient lighting and vastly more comfortable than a dozen 200- or 300-watt ceiling lamps scattered about and extending a brilliant invitation for social contacts and friendly exchanges, whereas productive work is what is wanted and what is paid for."

Mr. A. B. Segur, an industrial engineer, opined that the application of motion-time analysis would be a good thing for the printing trades. "In our practice we can forecast time allowances on operations for which no equipment had ever been built prior to the time that the forecast was made. The agreement between actual time required and the calculated time on the operations now being performed is so close that this equation is used as a check-up on the listing of the motions used." That's what he said, anyway; and if this statement could be verified by actual trial facts the printing estimator's job surely would become a sinecure.

Clarence L. Johnston, consulting engineer in printing processes, gave an elaborate resume of "Developments in New Printing Processes," showing a comprehensive knowledge of what is taking place in the industry both in this country and abroad. Practically every new development in machines and processes was interestingly covered.

Rubber Plates

Printing from rubber plates or blankets was the subject of an interesting discussion. Mr. W. J. Wilkinson, president of the Zeese-Wilkinson Company, described a new process developed in France.

"A rubber blanket is manufactured of pure Para rubber to the thickness of 0.03 inch. This sheet is vulcanized together with a heavier sheet of rubber, and between these two sheets there is placed a heavy piece of manila paper. The front of the blanket is brought in contact under pressure with a plate-glass surface, so that when the vulcanizing is finished, the surface of the blanket is as smooth as glass. This blanket is then fastened on the steel drum of a lathe, face down, and is cut down from the back with a diamond, so that the thickness is uniform and absolutely true. This thickness after treatment is 0.047 inch.

"This blanket is now sensitized with a bichromated solution, on which is printed the halftone or line negative in the usual method. It is then developed. The solution can be varied, and solutions of albumin or dry enamel may be used.

"After the exposure, the rubber blanket is rolled up by hand, developed, and the image etched into the surface of the blanket by placing the face of the blanket in contact with a solution of chromic acid. The etching time occupies five to fifteen minutes, and the depth that can be obtained is about two thousandths of an inch (0.002 inch). For fine halftones it is desirable after a short etch to roll up the image before the final etch is given so as to protect the smaller dots and prevent them from etching away.

"The blanket is now put on a special press built by the inventor, which is a precision press. The cylinders are most accurately turned off, and they are absolutely true. The blanket is fastened on this cylinder in the same way as we now attach a rubber blanket in the offset press. The press which I saw in operation had a cylinder of twenty-four inches in length by six inches in diameter or about eighteen inches in circumference. This press was equipped to take six of these cylinders at the same time, so that six colors might be printed simultaneously, and these cylinders were grouped around the impression cylinder in the same way that they are grouped around other multicolor presses.

"The inking device is similar to the inking device used on other presses. The ink roller, however, instead of being of rubber, is of polished steel and very accurately set so that it just touches the surface of the rubber blanket. The ink is well mixed by a series of fountain rollers before it is put on to this final steel roller, and the contact between the inking roller and the rubber blanket is extremely light; in fact, so light that although the rubber blanket is etched only for two thousandths of an inch, it will touch the upper surface of the blanket, but *not* where the blanket has been etched, even if there are large spaces of etched surface.

"This was rather surprising, and I could not quite understand how this press would run for any length of time without the bottom of the blanket inking up. However, I saw this press run for three hours at a speed of 6,500 an hour printing four colors, and after this time there was no ink on the bottom of the blanket.

"The impression cylinder is also a precision cylinder and so set that it barely touches the surface of the rubber. In fact, the inventor explained to me that actually it does not touch the cylinder and that the impression is caused by the thickness of the layer of ink that is on the rubber blanket. However this may be, the impression must be exceedingly light. I have seen large solids printed with absolute

covering and with no signs of insufficient impression. This naturally is due to a large extent to the affinity which the ink has for rubber and the ease with which rubber prints on to paper.

"The paper is fed in from a roll and chopped off after the four impressions are put on and then piled. While there was at all times sufficient ink to cover the solids thoroughly, I did not see any offset, even at a speed of 6,500 an hour. The press has an automatic stop, and if for some reason anything goes wrong, the press stops automatically. The register device is a very simple one whereby each individual cylinder can be advanced or turned back while the press is running, so if any of the cylinders are out of register, this can be corrected immediately."

The subject was further discussed by William L. Fowler of the Hampden Glazed Paper and Card Company and C. A. Russ of the United States Rubber Company. James Graham of Paramat Limited, London, submitted a paper on "Advanced Stereotype Methods," in which rubber printing plates as produced in Europe were thoroughly discussed.

Said Mr. Graham: "During my four months' visit to the United States I was unable to meet up with anyone who could show me work done from molded rubber plates that could compare favorably with what is being done over here in Great Britain, and to me the reason is very obvious. So far no maker of rubber printing plates in America has succeeded in overcoming the natural shrinkage of rubber, and because of that they are unable to mold a set of multicolor plates and give register with any degree of accuracy, whereas we have overcome that difficulty and can produce a set of color plates with even greater accuracy than that obtainable from metal stereos.

"It is a known fact that the present-day type of stereo matrix shrinks; it is also known that a stereo plate shrinks. The Paramat matrix does not shrink and neither does a Paramat multi-color rubber stereo."

Other Reproduction Processes

All the other reproduction processes as we know them today were given adequate attention by eminent speakers. Mr. Alexander Murray of the research laboratories of the Eastman Kodak Company read an interesting paper on the renaissance of the pictograph, claiming among other things that "pictographs are so much more efficient than words that any advertisement without them is largely a waste of money," which may or may not stretch the facts within an inch of the breaking point.

Stephen Henry Horgan, the dean of American process engravers, submitted a paper on the progress of the camera in bringing pictures to the printing press.

Harry A. Groesbeck, Jr., president of the Walker Engraving Co., New York, discussed the need for precision measurements in photo-engraving; Arnold A. Schwartz, president Art Color Printing Company; George A. Kubler, president Certified Dry Mat Corporation; George B. Drach, general superintendent Jersey City Printing Company, and J. Fremont Frey, vice-president International Stereotypers and Electrotypers Union of North America, discussed the problems of the stereotyper, especially in relation to new developments, while John H. Davis, general manager Judd & Detweiler, Washington, told of the methods used in electrotyping and printing *The National Geographical Magazine,* and George F. Bryant, consulting engineer, of "Pre-Makeready Developments."

"Newspaper Multicolor Printing," "Progress in Offset Printing," "Relation of Press Speed to Production," "Condition of Paper as it Affects Printing," "Humidity in the Pressroom," and "Printing Rollers" were other subjects given attention.

All in all the third conference of printing experts was one of the most successful gatherings of its kind ever held in this country. Every paper submitted had plenty of meat in it and its delivery was flawlessly made.

Announcement

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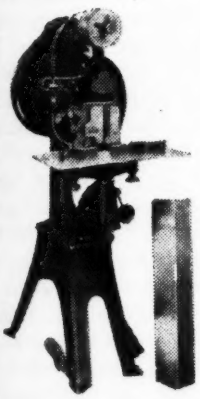

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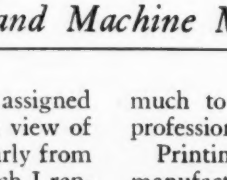
*What Is Ahead Of Our Industry**

By JOSEPH F. GILLICK

President, American Type Founders Company

Conditions of Printer and Machine Manufacturer Analyzed

WHILE no subject has been assigned me, it was suggested that in view of the reports which I receive regularly from the branches of the company which I represent, and as a result of my direct and indirect contact with printers throughout the country, I should have some advice, impression, suggestion, or thought to offer that might be helpful in determining "What Is Ahead of the Printing Industry."



Joseph F. Gillick

I have been rather reluctant to offer advice, especially since I heard a friend say that "advice is what older men give younger men when they can no longer set them a bad example." Therefore, be it understood at the outset, that I am not speaking *ex-cathedra,* or in the capacity of an adviser, and that my remarks are based on observations, impressions, experience, and whatever slight knowledge I may have of economics.

First, I wish to pay my respects to your great organization. You are to be commended for your efforts and the results you have achieved in scientifically solving the many problems with which you have been confronted. Your association has come to be accepted as one of our learned societies; skilled in cures for technical ills. There is no doubt in my mind that as time goes on, your value to our industry will be more and more recognized and appreciated. As I see it, there is still much to be done by the men of your profession.

Printing and the allied trades and the manufacturers which serve them constitute a gigantic industry. This industry is, as you know, of vital importance to the success and progress of our country. The United States Census Bureau's latest "Census of Manufacturers" shows that from a standpoint of value added to raw material, printing and publishing leads all other industries in the nation. Regardless of its importance, no one industry can long endure unless industry as a whole is in a healthy and prosperous condition. This applies particularly to printing, since it serves all other industries.

Therefore I hold that one must reach a forced conclusion if one attempts to forecast the destiny of our industry without giving consideration to industry in general and to the major factors and primary economic causes responsible for this unprecedented and prolonged stagnation of commercial and industrial activity.

Causes of Failure to Revive

As is generally understood, the unfavorable business conditions from which we are all suffering is a reflex of the World War. But, as this is not within the scope of my address, it is not my intention to make any extended remarks in this connection. What we are more particularly interested in are the causes responsible for the failure of business to

*Address delivered at the banquet tendered the participants of the third conference of printing experts at the Hotel Astor, New York, March 14.

revive and the measures necessary to restore economic stability. There are several serious causes retarding improvement in business. These causes must be overcome before we can reasonably expect a return to prosperity. One is the almost fatalistic belief on the part of many people that a boom is sure to follow a depression. They refuse to face the facts, or do anything whatsoever to remove the causes, content in their comfortable belief that time heals all wounds and will automatically cure our economic ills. Nothing could be more fallacious. In the past, prosperity has usually followed a depression, not because they run in cycles and one automatically follows the other. The reason is that necessity, the mother of invention, is also the mother of clear thinking, reorganization, and coordination. In times of depression, serious thought is given to errors of the past. In times of prosperity, we are all too busy counting our chickens before they are hatched to give any thoughts to the costly mistakes we might be making or the retribution that must inevitably follow.

On the other hand, the so-called booms or periods of extreme prosperity are often of the synthetic variety, due to expansion of credit vastly out of proportion to existing intrinsic wealth. This overexpansion, sometimes referred to as fiat credit, is the flimsy structure upon which our so-called prosperity of a few years ago was based. Prosperity of that kind can endure only as long as an unsuspecting people believe in it. It must collapse when attention is called to the true situation. Such booms have been and, in my judgment, always will be followed by a depression.

Many believe that a depression must end in a given number of months or years, based on the duration of former depressions. This theory is not sound and does not commend itself to reason. It will not eradicate itself while its causes remain and while nothing is done to correct them. Therefore, what is done during a depression to correct its causes shall largely determine its duration.

In 1928, banks were loaded with money and every one was optimistic regarding the future. This made it easy for manufacturers to obtain their financial requirements. They grasped the opportunity and used the money in over-production. Automobiles, pianos, electric refrigerators, radios, etc., were sold on the dollar-down plan, until an alarmingly large percentage of wage earners had their wages mortgaged for two or three years ahead, without any assurance of continuous employment during that period. Then, again, everyone wanted to become rich without effort and indulged in an ungoverned orgy of speculation. In October, 1929, the economic fabric, having been stretched to its tensile limits, became porous and the process of drastic deflation ensued.

Public Confidence

This deflation might have been good for the country if it had stopped when inflation had been corrected. The pendulum, however, swung too far in the oposite direction, each week gaining impetus. Due to cumulative process of liquidation, security prices fell to levels wholly out of line with intrinsic values. Fear and apathy replaced confidence and judgment. Thousands of banks throughout the country closed their doors. Those which remained open were faced to the necessity of keeping in liquid condition. This, of course, resulted in a sharp contraction of credit. If the situation had become more acute, the signs on the receiving tellers' cages and those on the loan departments of our banks might have been changed to the shorter but more graphic words, "Yes" and "No."

At present, our government is doing all that is possible to relieve restricted credit and to restore confidence. The government, of itself, however, cannot cause the return of prosperity. What it can do, and is doing, is to point out the fallacy of hoarding. The attractive government obligations recently announced should restore idle funds to the active channels of

trade. Laws have been enacted which should bring about conditions of commerce favorable to recovery. The rest is up to our financial, commercial and industrial leaders. I have not the slightest doubt or misgiving that men bred of the stock of the builders of our country, who moulded these United States of America from the vast plains that awaited them into the greatest nation in the world, will prove true to the traditions of our country in this crisis.

Coordination Is Needed

The ever-mounting cost of government is another important factor in retarding the return of profitable business and must be given serious consideration. I was astounded when I read a statement attributed to Senator Watson of Indiana "that combined American government is spending one-quarter or more of the national income annually"—excluding, of course, the income from the great untaxed industry of "bootlegging." It doesn't require an economist to point out that it is impossible to balance the budget under these conditions without radically increasing taxes or straining government credit by additional issues of bonds. Government, like industry, must curtail, if business is not to collapse under a burden of taxation beyond its limit of endurance.

Public confidence is the most essential requisite to the restoration of prosperity. To inspire that confidence on a sound basis we must do the things now that would have prevented our present difficulties had we done them long ago. We cannot continue to sit idly by, with a wish-bone where a back-bone ought to be, and expect people to believe in us.

The large percentage of advertising appropriations being allotted to radio is a real menace to the printing industry. There is no need to go into detail, as most of you are more familiar with the situation than I. I do think it is high time to tell the truth to advertisers about advertising. It should be done in a way that will convince the most skeptical. Many radio advertising programs to which I have listened were reminiscent of the old-time medicine show. They were not comparable with the efficacy, dignity, and quality of present-day newspaper, magazine, and direct-mail advertising. This business is lost to the printing industry, temporarily, at least, through lack of coordination. In fact, one of the handicaps from which industry suffers most is lack of coordination. I am not advocating complete coordination of the entire resources and facilities of the country. This, no doubt, would be characterized by many as a Utopian dream of an idealistic economist. I insist, however, that coordination is both necessary and possible in the printing industry. We may not reach the coveted goal of perfection for some time, but I feel confident that a cursory survey would disclose immediate possibilities that would be astounding.

Our industry is beset with many evils. There are too many competing for the purchasing power of the printer. There are too many printers competing for the potential sales of printing. This causes duplication of effort and overhead in manufacturing, destructive price competition, and multiplies the cost of distribution. For instance, a manufacturer contemplating the production of a new machine ascertains through a survey that the potential sales are about four thousand. Three other manufacturers are also considering the production of similar machines to do the same work. If each one figures 4,000 to be potential sales, 16,000 machines may be contemplated to supply a demand for 4,000.

Machines have been placed on the market that have a useful but limited place in the industry. They would have been profitable adjuncts to manufacturers already established, as well as to the patent owners, if manufactured on a royalty basis. Instead of following that cooperative course, new corporations came into being for the sole purpose of making one type of machine. Overproduction was

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resorted to to minimize the unit cost. Many of these machines were sold by high-pressure salesmen to printers who, by reason of the character and volume of their work, could not operate them profitably.

I could cite many instances similar in character; but this hardly seems necessary. It must be obvious to everyone that consumption and production must be balanced; that consumption must be the governing factor. To accomplish this requires coordinated thinking and planning.

The Lesson from the War

During the great world conflict about four million men of this nation were inducted into military service. About double that number were occupied in supplying munitions and other requisites of war. The sudden breaking off of trade relations with enemy nations and the difficulties under which materials were imported, even from friendly nations, caused the snapping of many links in our chain of production. New processes and devices had to be created and invented to overcome these handicaps. The loss of twelve million men disorganized the nation's productive forces. They had to be reorganized. Engineers and economists hastily came to the forefront and immediately undertook the enormous task of providing the nation with its peace-time necessities and requirements.

It was immediately recognized that this was a task national in its scope and had to be handled on a national scale. Coordinated thinking and planning were imperative to the accomplishment of their purpose. To this end, various administrators were appointed. The War Industries Board was created for the purpose of conserving and mobilizing the nation's resources into one vast productive unit. True, the men engaged in this work made some mistakes; that was to be expected under the circumstances. They accomplished, however, what would have been impossible of accomplishment without coordinated thinking and planning.

Remember, I am not suggesting nationalization of industry. That usually causes stifling of initiative and elimination of personality. Nevertheless, there is a lesson to be learned from what was accomplished in this country during the war. In this connection, it might be well to mention that in countries where certain industries are government monopolies or subsidies, such industries, having unity of purpose, do not suffer from sales resistance, duplication of styles, destructive price cutting, and other forms of waste, due to abstract thinking and lack of coordinated planning.

The history of our country has been one of continual growth. It was fundamentally sound to expand industry to keep pace with our increased population. Now, that over-expansion has taken place, I believe that the logical thing to do is to reverse the process and contract. But, be careful, or you are likely to be adjudged a combination in restraint of trade—even when there is no trade. Still our laws are supposed to be for the common good —to protect and regulate, not to hamper or injure, legitimate business by restraining it from doing the very things necessary to its continued existence.

In the latest issue of *The Typothetae Bulletin* attention is called to the fact that industry is now being sustained not through income but through the depletion of capital assets. This condition is constantly draining the vitality of business and reducing its power of recuperation. Notwithstanding this serious situation, business men are constrained to follow the obvious, logical, and necessary course, through fear of the so-called anti-trust laws. I say that any law which compels individual units of an industry to starve separately instead of permitting them to live combined is a vicious law, and is not designed for the public good. Such a law is the most dangerous and pernicious of all restraints of trade; it retards the return of prosperity and defers the day when the unemployed will once again become selfsustaining. The business

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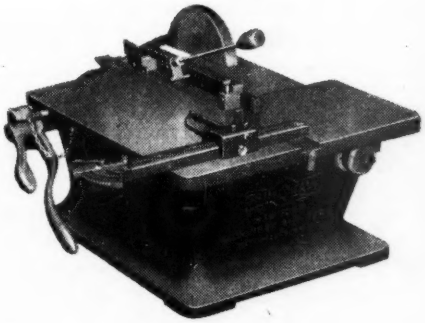

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men of the country should exert every energy and influence to have this law amended to serve a useful purpose.

There was a time when the term "engineer" suggested the thought of one engaged in the fabrication and erection of huge structures. Recently he has come to be recognized not only as one skilled in the principles and practice of mechanical science, but one competent to plan, layout, direct, or execute any undertaking connected with any phase of industrial activity.

Under the newer and broader concept of the term "engineer" you gentlemen have a great deal more latitude and, consequently, more responsibility than formerly. You recognize the need for scientific adjustment. You can, and I know you will be of immeasurable value in bringing about the necessary reforms and eliminating the pitfalls into which our industry has fallen, due principally to lack of coordination.

Now the natural question is: How is all this coordination to be brought about? I believe that the various employers' associations throughout the country should be merged into national organizations. The several groups of manufacturers serving the industry should organize trade associations. A central committee consisting of representatives of these associations should be formed to determine and correct existing evils. This committee should have for its object unity of purpose, and that purpose should be the reestablishment of our industry on a sound basis.

Therefore, in conclusion, I say that "What Is Ahead of the Printing Industry" depends largely on who are behind it and to what extent they coordinate and cooperate.

New Processes in Printing and Engraving

By William Gamble, F.R.P.S., F.O.S.

I enjoy spending an hour or two occasionally in the patent office library here in London. Not only can one see there the specifications of every patent that has ever been issued, but also all the trade journals of the world and the most complete collection of trade textbooks. Anyone who knows the run of the library can find information on practically any technical subject and if any difficulties are met with in the search there are courteous officials willing to take any amount of trouble in rendering help. One can roam about the library at will, without any restrictions or formalities, so that no time is lost in reaching the objective of one's visit. It is most interesting to study the most recent specifications on my own particular subjects of printing and process work, and the more I study them the more I am convinced of the truth of the old adage that "there is nothing new under the sun." I will give a few examples.

Etching Image on Back of Plate

N. Ludwigsen, in B. P. 365,091, describes a method of etching an image on the back of the plate so as to form a makeready. This has been revived many times to my knowledge, but the method claimed now for doing it is a little different to preceding ones. After the usual halftone negative is printed on to the metal for etching in the usual way, the negative is strongly re-intensified so as to fill up the highlights. It is also treated with a reducing solution to cut out all the fine dots from the shadow parts. With this negative a print is made on the back of the plate in register with the image on the front and the plate is again etched. This gives solid parts corresponding to the

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1—50-inch Dexter Automatic Paper Cutter with electric equipment, complete.
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1—Latham Round Cornering Machine with electric equipment.
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1—Flat Truck.
1—Model 8 Linotype Machine with electric equipment and Monomelt attachment.
1—Double Hamilton Cabinet with 48 cases and banks for leads, slugs, etc.
1—38x51 Chase—$15.00.
1—41x54¾ Chase—$16.25.
1—32x45¾ Chase—$14.00.
1—41¼x55 Chase—$16.50.
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These chases are all complete with cross-bars and in perfect condition. (Outside measurements.)
About 1500 lbs. of Type, consisting of a series of
Cloister Old Style—8, 10, 12, 14, 18, 24, 30, 36, 42, 48, 60 and 72 pt.
Cloister Old Style Italic—8, 10, 12, 14, 18, 24, 30, 36, 42, 48 and 72 pt.
Cloister Bold Italic—10, 12, 14 and 18 pt.
Cloister Bold—8, 10, 12 and 14 pt.
Caslon Bold—12, 14 and 18 pt.
Caslon Bold Italic—12, 14 and 18 pt.
Leads and Slugs—10c lb. while they last.
1—Cincinnati Time Recording Clock—$50.00.

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shadows and hollows under the highlights.

Presumably the process is for newspaper cuts, but it is hardly likely that such a double process would be adopted in a newspaper office where every minute counts. They will prefer the well-tried and simple method of "bumping-up" which consists of putting a cut-out underlay beneath the plate and giving a squeeze in a press so as to raise the parts which have to print most strongly.

Adding Mercury to Coating of Collotype Plates

The Gramophone Company has evidently been doing a little experimenting in collotype printing, for in its patent (B. P. 366,633) it claims as a new feature the addition of mercuric chloride to the coating solution. It says that this gives a very fine grain plate which will yield at least one hundred and fifty prints without showing any sign of drying up. It is admitted that the addition of mercury compounds to collotype plates is known, but asserted that this has not amounted to more than 6 per cent of the weight of the bichromate salt, and then only for increasing the sensitiveness, whereas 10 to 50 per cent may be added for the purpose of producing a proper grain.

This idea of adding a mercury salt is quite an old thing. It was the basis of the "Sinop" process, invented by a Frenchman named Ponsin and marketed in England by Penrose. It was noted at the time—before the war—that the mercury not only increased the sensitiveness, but it gave a very fine grain. Moreover the plate was more durable and printed more easily than ordinary collotype, so much so that an outfit for the process was sold to amateurs, many of whom did very good work though only using a letter-copying press for taking the impressions.

Inkless Printing by Electrical Contact

The big German electrical firm, Siemens-Schuckertwerke, A. G., in B. P. 353,960 patents a method of making impressions by a metal which will leave a mark, such metals being silver or some alloy. Though only for printing the recording bands of electrical measuring instruments—for example, gas and electricity meters—the application might be very well extended to more ordinary forms of printing.

There was an electrical inkless printing process patented in 1899 by Mr. Friese Green, who claimed also to be the inventor of the cinematograph. This method consisted in impregnating the paper with certain chemicals and a current being passed through it at the moment of impression. The process was demonstrated in practical use on a printing machine and caused a great amount of interest, especially to the inkmakers, who foresaw the possible doom of their business. But they have survived the danger and the inkless process is now almost forgotten.

Color Printing for Newspapers

W. J. B. Moore, in B. P. 365,155, puts forward a scheme for introducing two-color prints into newspapers. He proposes to make two screen-plate negatives through orange-red and green-blue filters on panchromatic plates. From these he makes two positives, also with panchromatic plates and through the same color filters. From these positive halftone negatives are made and etched. Two forms are made up with the cuts, one form for each color, and curved stereo plates are made from these forms. To adapt the rotary machine for color printing two additional cylinders are fitted over, and just in contact with the cylinder from which the picture page is usually printed. This latter cylinder is fitted with a copper plate in place of the picture page plate, the copper plate being coated with a thin film of albumen. The copper plate picks up an image from each of the two additional cylinders by offsetting and transfers the print to the paper web.

It does not seem to be a process suited to the hurry-scurry of a newspaper office,

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267	28x42—74	60

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188	38x50—90	45

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326	36x48—82	45

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294	36x48—64	32

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and I should doubt whether the color work would be high-class.

New Way of Making Stereotype Mats

The Ullstein A. G., the great German printing and publishing house in Berlin, has patented a method of making matrices, which saves the time and trouble expended in packing the backs of the mats with bits of cardboard in the large whites. It results in obtaining a matrix with a level back but with full depth in the whites at one pressing. This is accomplished by pasting on to the usual matrix paper one or more layers of blotting paper with an adhesive which will not give up too much moisture. The matrix can then be pressed without the usual backings of felt, the platen pressing directly on to the back of the matrix paper.

Quite a simple idea which might have been thought of before.

Hand Lettering vs. Type Compositions

By JOHN REED

IN TWO RECENT ISSUES of THE GRAPHIC ARTS MONTHLY appeared suggestions from readers regarding the front cover of the magazine which would create renewed interest in type composition if followed. The idea conveyed is to design covers in which composing-room material is used exclusively, and since movable types were designed primarily for the purpose of reproducing as nearly as possible the beautiful illuminated manuscripts of medieval times, it is particularly appropriate just now because it appears that the craft is gradually recovering from the modernistic typographical horrors which have been foisted upon the public during recent years. Some criticisms even go so far as to assert cubist art and modernistic type composition is responsible for the depression which is as logical as any other reason. At any rate they are sufficiently depressing to create an aggravating spell of mollygrubs.

Such an undertaking would introduce

Fig. 1

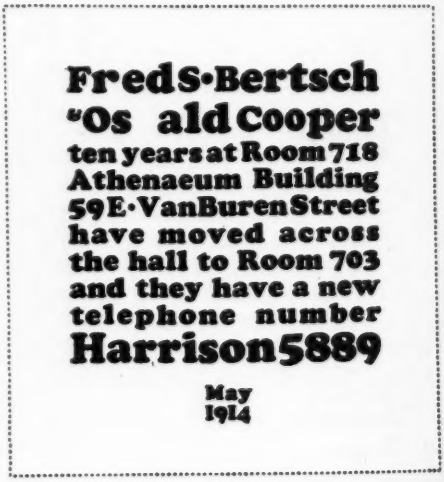

Fig. 2

Greater and Greater

Are the Savings for the Printer Who Takes Advantage of the Present Buyers' Market

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2—Miehle Verticals
2—Style "B" Kelly Specials
2—12"x18" N. S. C&P Kluge Units
1—Peerless (practically new)
1—Multicolor M24 with Feeder and Delivery (1 year old)
2—12"x18" N. S. C&P Miller Units
2—10"x15" N. S. C&P Miller Units
2— 8"x12" N. S. C&P Miller Units

OPEN JOBBERS

2—14"x22" N. S. C&P
2—12"x18" N. S. C&P
2—10"x15" N. S. C&P
2— 8"x12" N. S. C&P
1—14"x22" Thomson Laurette (4 roller)
1—14"x22" Thomson Model C (3 roller)

CUTTERS AND CREASERS

2—14"x22" John Thomson
1—14"x22" Galley Universal
1—25"x38" Huber Hodgeman (cyl. with steel jacket)

COMPOSING ROOM

1—Poco Proof Press with Stand (size 12"x18")
1—Hamilton Steel Cabinet, with Cal. working top, 48 cases of various series of type.
3—Hamilton Steel Cabinets with 24 cases each of various series of type.
3—Hamilton Wood Cabinets, with 24 cases each of various series of type.

LANSTON MONOTYPE SORT CASTER

POWER CUTTERS

1—50" Seybold
1—50" Oswego (Seybold built)
1—44" Seybold Heavy Duty
1—38" Holyoke Seybold
2—36" Sheridans
1—34" Sheridan

HAND CUTTERS

1—30" Diamond Hand Lever
1—30" Peerless
1—26½" Advance
1—25¼" Peerless
1—16" Advance
1—14" Advance
1—19" Advance

BINDERY

1—No. 1 Monitor 20th Century Stitcher (capacity 2 sheets to 7/8")
1—No. 2 Boston Stitcher (¼" cap.)
1—19"x25" Baum Folder (practically new)
1—14"x19" Baum Folder (practically new)
1—Rosback Power Punch with assortment of punch blocks.
1—Latham Power Punch with 4 round hole blocks.
1—14" Tatum Foot Power Punch with slot and round hole blocks.

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1—6/0 2 color, bed size 52"x70" with Feeder and Extension delivery.
1—5/0 2 color, bed size 52"x65" with Feeder and Extension delivery.
1—5/0 Special, bed size 46"x68", both sheet and fly delivery.
1—5/0 bed size 46"x65", both sheet and fly delivery.
1—2/0 bed size 43"x56", with extension delivery (real price).
1—No. 4, 4 roller, bed size 29"x41", both sheet and fly delivery.
1—No. 4, 3 roller, bed size 29"x41", with pile suction swingback feeder.
1—No. 3, 4 roller, bed size 33"x46", both sheet and fly delivery.
1—No. 3½, 3 roller, bed size 31"x42", with fly delivery.
3—Pony Miehles, bed size 24"x36", both sheet and fly delivery.

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many difficult problems, but it also opens a field of experimental endeavor which may result beneficially to the craft as a whole. It will surely stimulate the creative ingenuity of our best compositors because of the restrictions imposed by foundry material.

Many hand-drawn designs can be closely imitated with type and even the more difficult compositions could be accomplished by recourse to work-and-twist impressions. It has probably not occurred to all printers that the stock for jobs, the dimensions of which do not prohibit, can be cut four times the size of the finished work, the form split into four sections,

Fig. 3

and stock twisted four times before feeding to press, thereby making it possible to produce the most extraordinary effects with type. This stunt was demonstrated by the writer in the May, 1930, edition of The Graphic Arts Monthly. By a modification of the expedient, such as dividing a job into several elements and making registered proofs of each, some elements intentionally lapping over others, unusual copy for photo-engraving may be produced.

In the accompanying specimens there are illustrated some almost insurmountable difficulties in an endeavor to imitate hand lettering. Fig. 1 is the creation of Mr. Oswald Cooper, executed before Cooper Black was introduced. Fig. 2 is a carefully studied effort to follow it by one equally skilled in relief printing, lithography, and offset work.* If this form

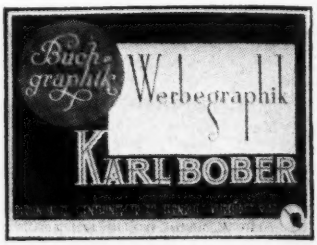


Fig. 4

had been divided into two parts, using alternate lines in the different forms, by the proper spacing of lines a more compact appearance would have been given to the job, but it would be a far cry to

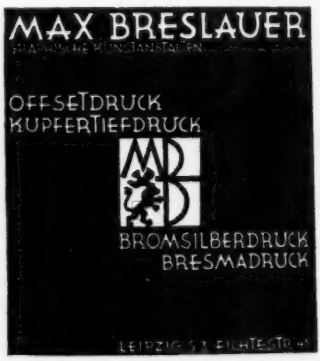


Fig. 5

the original drawn design. Now the question confronts as to which of these designs is most desirable—in artistic merit,

*The type composition in this contribution is the work of Mr. J. Petrik of the Petrik Press, Chicago.

legibility, individuality of character, force of attraction, and urge to read to the end.

Figs. 3, 4, and 5 are probable reasons for the vogue of sans serif faces throughout the land. Figs. 4 and 5 are excellent examples to reproduce with foundry material. Where could be found another such beautiful specimen of composition as the two-inch ad shown as Fig. 3? There are no "rush" tickets where such gems are created.

New Cross-Rule System

Morris M. Leftwich, a Los Angeles printer, has invented a cross-rule system which has many points in its favor. Cross-rule forms, by this process, are made in the most ingenious manner. From a stock of type-high lead or brass rules the proper faces are selected and cut to desired lengths. By the use of a Speed E motor-driven machine operating with precision, equipped with saw, clamps and gauge, a notch is cut a full one-half depth at points where a transversal line intersects. The cross or horizontal rules are sawed from the top or printing edge and the down or perpendicular rules sawed from the back. The rules carrying the same space between intersections are grouped and sawed in one operation. Any desired number of rules may be sawed by simply clamping them in the machine and moving the saw across them.

The rules are then assembled in their respective places, the notching permitting them to interlock in such manner as to seat the printing edges upon a surface so that they are in exactly the same plane. In any of the open rectangular spaces made in this manner the type is easily placed and justified. The form is then squared, planed and filled with a light, plastic, non-shrinking, self-hardening substance to a thickness a little less than the depth of the form. In approximately fifteen minutes the filler sets and hardens sufficiently for use, expanding one-tenth of one per cent and finally developing a crushing strength resistance of approximately 5000 lbs. per square inch. Plans have recently been completed by the Speed E Cross Rule Company, 402 Grosse Building, Los Angeles, California, for the introduction of the system.

Two Slugs from One Mold

To enable the operator on a typesetting machine to cast two slugs simultaneously, one slug being cast automatically without any attention on the part of the operator, a device has been evolved and a patent is being applied for. The invention really consists of three devices—a structure for dividing the mold slot into two sections, this liner being a comparatively simple accessory; a substitute left-hand vise-jaw having a matrix-bearing portion which is positioned in front of one of the mold cells during casting; and finally, an auxiliary delivery chute to convey to a special galley the extra slug, which may carry any desired matter such as by-lines, credit lines, and so on. A central portion of the regular ejector blade is removed so as to provide ejector portions adapted to eject the two slugs simultaneously. The other slug is delivered to its galley in the usual way.

Plate Repairs

Mr. Horace W. Haydock, president of the Royal Electrotype Company, Philadelphia, spoke to the printing students at Carnegie Institute recently, advising them that it is not necessary to call in outside help for small repairs of electrotype plates. The man in the shop who has charge of the plates should be trained to make these repairs, he said. "He should have a tool kit containing a micrometer, hammer, square, soldering iron, bit and brace, keyhole saw, marking calipers, punches, magnifying glass, files, engravers' tools, and steel straightedge. With this outfit flatness of plates may be tested, new bevels soldered on, thickness of plates determined, and inside or outside mortices may be cut."

Today's Printing Problems Analyzed

By J. Gus Liebenow

Register and Die-Cutting Troubles Discussed From All Angles

Q. We are enclosing a specimen sheet 12 by 18 inches, run on a platen press, on which we cannot get register on the black plate. The other two colors are buff and blue and register without any trouble on the same press. The form has been checked and there is nothing loose in the form. Can you be of assistance to us?—Seattle, Wash.

A. While your register trouble may seem peculiar to you, the writer believes that it is not a very difficult problem for you to solve and will accordingly make you several suggestions that will enable you to place your finger upon the condition which is causing you the trouble. You must understand, of course, that this procedure must be followed, as I haven't the press before me with which I could more easily determine what is causing the trouble.

It is evident that in the run of this job your first two colors, the buff and blue, were in register, which would lead me to believe that the press is registering, and it is possible that a heavy makeready before used on the black form requiring more packing has created a situation wherein the frisket grippers would foul a sheet and then throw it out of register.

Take this black form, put it back on the press, not necessarily made ready, but get in about the same amount of packing that you had when the job was originally run; cover the whole with a good manila tympan sheet, which should be pasted to the lower tympan clamp. Run a lighter color, so that your black is barely printing and pull an impression on the tympan sheet and let the press run for a number of impressions, throwing off the impression now and then, and I am sure that you will find you are printing in register. To get this clear, you will understand that you are really pulling successive "packings" or false prints and not feeding sheets through.

If by this test you see that your platen and bed are in register, place your guides on the tympan sheet and feed some sheets through and re-print as is customary to determine register. If you are not then getting register it is due to something fouling your sheet, which in all probability would be one or more of the frisket grippers. Move your grippers out so that they do not touch the sheet and stretch a string across the top so that your sheet will not collapse and then print some sheets and re-print, and if these sheets register from that point on you will be able to check which gripper is giving you the trouble.

It ofttimes happens that the frisket gripper will become bent putting in and taking out forms or leaning against them during the course of a wash-up or a cleaning out of the form or battered sheet. These frisket grippers must be in line and should come in contact with the platen evenly, but when they have become bent or twisted they will at times first touch the platen at the bottom or guide edge and this will cause heeling of the grippers on the sheet and will gradually raise the sheets from the guide as the platen begins to close for the impression. If this is the case, it will be necessary to take the grippers off and straighten them out. In some instances it is found good practice to place a washer between the frisket gripper and the frisket gripper bar, which will extend the frisket gripper further away from the platen, so that you will get a more even contact.

There is also another condition that could have given you a lift on the sheet

on the black form. The first page of the samples you sent us is evidently printed from a zinc etching and there is probably some shoulder on it and it is possible that you may have set a gripper on the right-hand side of the sheet that may be coming in contact with the wood part of the plate. This would be forcing the one gripper down and jamming it into the sheet; not enough to mark it, but enough to disturb the sheet as it lies in its position on the guide after the feeder had placed it there. This ofttimes happens with zinc and copper originals as they are not routed away very deeply.

It is also possible that the spring on the inside of the frame of the press, which governs the tension of the frisket gripper bar, has broken or has weakened, permitting your grippers to act shakily, which would tend to slightly agitate the sheets as they come down on the platen.

In testing all these suggestions it is imperative that your tympan sheet or top sheet must be pasted down to the bottom of the platen and that you do not depend upon the clamp alone to hold your tympan tight, as there is a tendency for this top sheet to draw. All good pressmen observe this precaution when running register work.

Q. We are enclosing a blank sheet and a die-cut sheet of tally cards done on a platen cutter and creaser. We find that our rules on the irregular edges are wearing down very rapidly, and as these are the most costly rules to shape we would like to determine a reason for these particular rules wearing so quickly. —Boston, Mass.

A. The tally card sent can be done with better results than shown. Pressmen not skilled in handling steel rule forms sometimes cause themselves trouble by taking their initial impression with too heavy an impression. While this is not dangerous in handling type forms, it is ruinous with steel rule dies. The impression should be brought to an absolute minimum and gradually brought up until some cutting is shown and then make ready from that point. If too heavy an impression is at first taken, the edges of

An unlucky guess~~~

Every successful manufacturer makes every effort to eliminate guesswork and cut down waste. Cromwell Tympan papers come in exact sizes for standard presses cut and scored ready for immediate use.

No wastage in Tympan paper. Takes only a moment. No waste time and every minute that press stands idle costs money. No loss of makeready from stretch, humidity, wear, or excess smut.

Try a Few Tympan Sheets at our Expense

Give us the size and make of your press and let us send you for trial, gratis, a few sheets of genuine Cromwell Tympan paper, cut and scored exact size for the presses named below:

MIEHLE KELLY
HARRIS MILLER
SIMPLEX BABCOCK

Send for This Book

It gives the solution of many of the troubles of the pressman when quality work is expected.

CROMWELL

SPECIAL PREPARED Tympan Paper

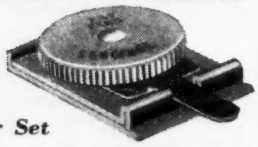
The Cromwell Paper Company

QUALITY BUILT IN

4821 South Whipple Street Chicago, Ill.

S and M
GAUGES
FOR PLATEN PRESSES

Grips Where You Need it



$1.75 per Set

Eliminates all chance of sheets feeding under. **Low movable tongue** insures perfect register. One simple adjustment with the fingers locks both gauge and tongue in position. Simplicity of design and strength in construction guarantee satisfaction and long life. Put an end to **slipping gauges** and curled sheet feeding troubles in your shop. If your dealer cannot supply you, write

SMITH and MOORE
1616 Eighth Ave. SEATTLE, WASH.

Northwest Casting Boxes
(FOR STEREOTYPING)

8½x12 .....$ 25.00
12x18 ..... 35.00
19x24 ..... 100.00

With 11 point and type-high bars.

See your dealer or order direct.

NORTHWEST TYPE FOUNDRY
512 Fifth Ave. S.
MINNEAPOLIS, MINN.

the cutting rules are turned. This turning is so slight that it is not perceptible to the naked eye, but each succeeding impression tends to turn or roll over the cutting edge more than the preceding impression. This gives the effect of a dull rule and more impression is applied, all to no avail. The best thing would be to take out the rule and die and re-knife. This is expensive, so therefore follow the precaution of starting with a low impression and gradually increase it.

The makeready of a die form is just as intricate as the makeready of a fine halftone form; in some cases even more difficult.

There is sometimes a variation in the heights of steel rule, which is surprising when measured under a micrometer. This variation must be taken up by a careful makeready, paying particular attention to the small weak spots, not by attempting to apply additional impression over the entire surface.

The pressman must be careful about placing his individual patches so that they only affect the low spots and not the spots that are already cutting.

In some parts of the sample sheet before us, the outside rule cuts all right, but the small rules on the inside do not. These rules are best brought up to cut by patching with manila gum in back of the form.

Referring to your sample, you undoubtedly are using soft rule for the sharp scalloped bends. This practice is all right, but a good steel rule diemaker will use soft rule and then harden it after it has been shaped. Makeready against this rule should be treated as if it were script or shaded type. Clever diemakers work with small pieces, realizing that changes are necessary where soft rule has been used.

On the whole, if you will treat the makeready of a die form with as much care as you would a halftone, you will find that a die will stand up and give good results longer than would the type form of equal weight.

Typographic Sanity Needed

By L. J. HERZBERG

Typographical Director, Gardner Advertising Company, St. Louis

IF YOU WANT to sell printing today, stick to first principles in design typography; this statement generally has made progress out of the morass of ultra-modernism. But some practitioners are still straggling in the mire.

Most printers and buyers of printing under the pressure of deflation have come to their senses, and the realization that printing is an informative vehicle, intended to convey a definite message from one person or organization to another individual or group of the same species. The notion that it is a mode of self-expression is less in evidence.

Manufacturers and merchants, in the stress of economic stringency, are becoming convinced that the advertising appropriation is not an endowment fund for the development of new art forms. Touching as the picture of unemployed genius might be, these men of business are asking for value received of their graphic servitors. They are reaffirming the belief, considered naive in the heyday of cubes and prisms, that printed matter has a broader purpose than being reproduced as bits of the superlatively voguish.

By far the largest percentage of printed matter is advertising literature. And the advertisement is salesmanship on paper. No designer of printing, and no printer should forget that. The purpose of this printed salesmanship is to sell goods or service; or to create favorable acceptance for them.

During the high-flying days, the vital fact that printing was being hired to sell

Now Only $35.00

10 Days' Free Trial

Designed To Keep Your Plant Clean and Save Money

Blows—Vacuums—Sprays

The TORNADO Portable Electric Blower cleans folding machines, linotype machines, type cases, paper cutters, presses, motors—an all-purpose maintenance tool—light, handy, portable—attaches to any light socket—blows—vacuums—sprays insecticides. Replaces the old fashioned bellows. Ten days' free trial. Write

BREUER ELECTRIC MFG. CO.
856 Blackhawk St. Chicago, Ill.

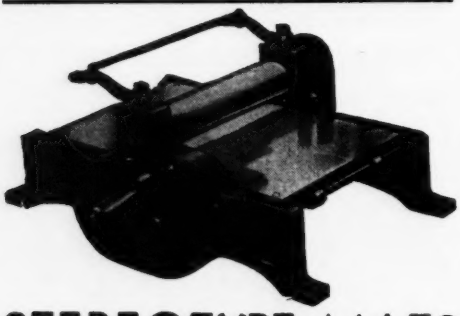
EXPERIENCE—*A Half Century of Making One Thing Well*

PRINTING INKS—Letter Press, Lithographic, Process, Carton, Poster, Corrugated, Cellophane and Glassine
Engravers and Embossers

Write for Color Card, Samples and Valuable Information

H. D. ROOSEN CO.

Harrison and Clark Sts. .:. Chicago, Ill.



STEREOTYPE MATS

Made in your own plant on the RELIABLE DRY MAT MOLDING PRESS will enable you to save time . . . money . . . and space . . .

As easy as proofing *Send for Circulars*

PRINTERS MAT PAPER SUPPLY CO.

559 West Lake Street, CHICAGO

SLEIGHT'S

PRINTING - LITHOGRAPHING

INKS

●

USE

SMICO

PROCESS TREATED INKS

GOLD-ALUMINUM INKS

●

Sleight Metallic Ink Co.'s

(Incorporated)

FACTORIES:

Philadelphia - Chicago - Toronto

Montreal

BRANCHES:

New York - Washington - Pittsburgh

Cincinnati

something was too often overlooked. It was considered of greater consequence by some, that the reader be awed by the cleverness displayed in the lineaments of the advertisement itself. Type faces were chosen for their newness, not because they possessed any inherent quality or character that made their use imperative. It was thought to be quite sufficient that the advertisement be remembered as an impressive creation whether or not it implanted any thought of what the advertiser was selling.

Printing that attracts attention and does nothing more has not fulfilled its purpose. The point need not be labored; it is obvious. It requires no Einsteinian reasoning to prove what is trite: that the advertising textbook's trio, *arouse interest, awaken desire,* and *induce action* complete the formula of effective selling by the printed word. Yet these simple fundamentals were, and even now continue to be, ignored—or overlooked by some. Printing *should* attract attention. But it ought not stop there. In the mad effort to attract attention via the modernistic route, advertisements were set upside down, sideways, and how not. Workers in the vogue clamored for the unusual, the bizarre, even the grossly ugly; it was the thing "to do." These riots of mass and color and illegibility unquestionably did catch the eye; but how much merchandise did they move? No one knows, because people were buying in those palmy days without giving much serious thought to the manner in which they were persuaded.

In these hard-to-sell times, the virtue of simplicity in composition is again being demonstrated. The self-conscious style of layout is handicapped because it is unique. Its sophistication does not ring true to thrifty buyers. The clever setup with the funny type face is looked upon as an anachronism in today's advertising.

Persistent striving for original effects is usually the result of inexperience. It is the embryo adman who demands such things; and the unguided apprentice more

often than not, who sets the advertisement to suit himself. Having prejudices against traditional type faces, or against conventional patterns, the undeveloped craftsman makes the job a matter of personal opinion. He overlooks the important factor of the law of averages in his estimate of effectiveness. He must learn that the individual's reaction to a given effect is not a criterion of universal acceptance or rejection.

Beginner and veteran alike, users of printing and producers should remember that whether the job is beautiful or plain, different or just like so and so's work, the check on sales is the court of final judgment. Innumerable sales records have proven that the advertisement which the advertiser has himself long since tired of, is usually the one that brings in the orders.

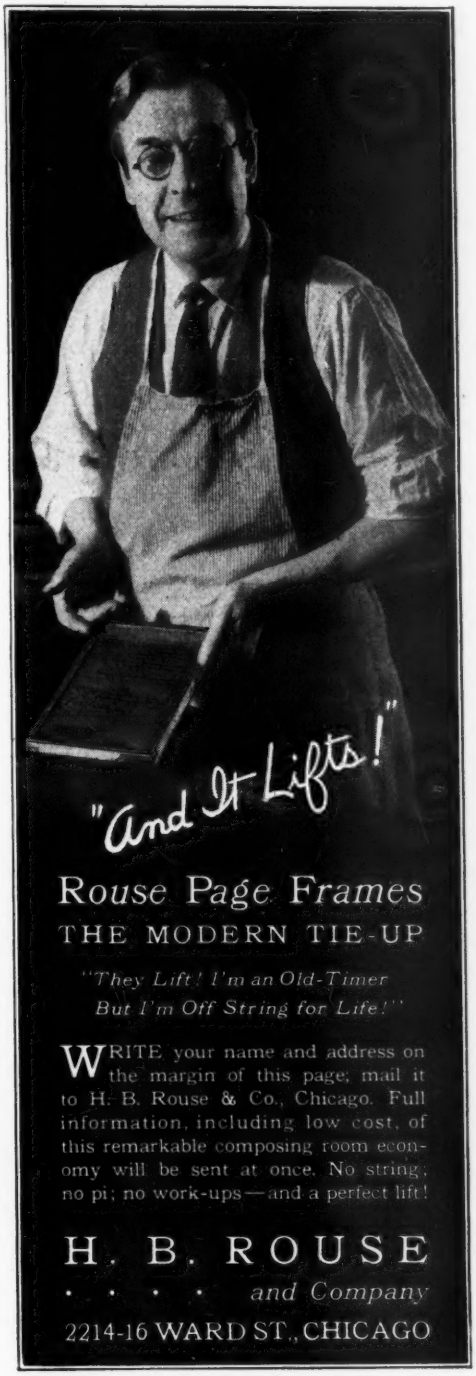
New Eastman Product

The Eastman Kodak Company has begun to produce a transparent material called "Kodapak" for wrapping purposes. Kodapak is manufactured from cellulose acetate. While most of the transparent wrapping material previously on the market is derived from wood fiber, Kodapak is a cotton product, through transformation of the original cotton into cellulose acetate and finally into the form of a thin, transparent, pliable sheeting.

It has a brilliant, glass-like clarity and a silvery appearance when it is crumpled in the hand. Its limpness permits it to fold easily and neatly around corners of packages. It is easily cemented in closing packages.

It successfully withstands the action of warm water without softening or distortion of shape. It is highly transparent and colorless. It does not have a tendency to become brittle in extreme cold and it will withstand high temperatures without coloring.

For better printing use good ink. No printing is better than its ink.


"And It Lifts!"
Rouse Page Frames
THE MODERN TIE-UP
"They Lift! I'm an Old-Timer
But I'm Off String for Life!"
WRITE your name and address on the margin of this page; mail it to H. B. Rouse & Co., Chicago. Full information, including low cost, of this remarkable composing room economy will be sent at once. No string; no pi; no work-ups—and a perfect lift!
H. B. ROUSE
and Company
2214-16 WARD ST., CHICAGO

The Graphic Arts Monthly

published by the

Graphic Arts Publishing Co.
608 South Dearborn Street
New Telephone: Harrison 0486
Chicago

Member Circulation CCA Controlled Audit, Inc.

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Electrical Problems

BERTEL O. HENNING
Stereotyping and Electrotyping

PAUL G. GUTZEIT
Stitchers and Glue Preparations

A. V. FITZ-GERALD
Production

Printed in U. S. A.

Newspaper Page Costs

On page 38 of this issue of THE GRAPHIC ARTS MONTHLY, F. W. Fillmore, director of finance and accounting department of the United Typothetae of America, explains how the Standard Cost Finding System for Printers may be adapted to find the cost of the newspaper page in combination newspaper and commercial printing plants; but he claims that owners of daily newspapers are not particularly interested in the cost of the newspaper page because other costs are more important. This may or may not be the case; we cannot say. However, we believe that a thorough knowledge of the cost of the daily newspaper page, especially advertising pages, will prove of much interest to daily newspaper owners, who now are groping in the dark, and from that viewpoint we are going ahead with our research. In a month or two we will probably have something interesting to report.

Printicians

THE word printer may be old-fashioned, almost outworn, but its meaning is clear, its sound distinguished. Motion has been made that we change the word to Printician to conform to the usages in other lines of endeavor; has even been adopted and put to use by a firm of Montreal printers. "Every person in the printing and allied industries knows that physicians are paid to keep us well," says *The Printing Review of Canada;* "that musicians are paid to supply music; that opticians are paid to keep the eyes in order; that electricians are paid to keep the presses running, the light burning, etc.; and that morticians are employed to bury people. There are no doubt other 'icians.' Morrison & Moore, Ltd., Montreal printers, are the first to bring this suffix to the printing industry. The word 'Printicians' looks well on the letterhead and card of the firm, and furthermore it sounds well."

We grant the correctness of the last statement and will even admit that if it had been adopted at the time printing had its birth it would have served the purpose admirably; now it is too late to change. The "printer" has too long and too honorable a history to look back to.

Then there also are publishers, lawyers, merchants, and engineers. To call them publicians, lawicians, merchicians, or enginicians surely would not look well, nor would it sound particularly nice.

Metallic Inks for Offset Work

WE ARE SORRY, indeed, if anything written in this magazine causes anybody pain or threatens anybody with apoplexy; that is not its mission.

On page 52 of the January issue of THE GRAPHIC ARTS MONTHLY we criticized an opinion by John Stark, a contributor to the *Lithographers' Journal,* in which he stated that metallic inks cannot be run satisfactorily on the offset press. We had no intention of hurting anybody with what we said, nor of starting a controversy, especially on a subject on which Mr. Stark as a lithographer naturally is better informed than we as mere printers. But we seem to have failed. In the March issue of the *Lithographers' Journal* (page 525) Mr. Stark comes back at us with statements questioning our veracity if not something worse. To our statement "that it is a commonplace every day occurrence to print metallic inks successfully on the offset press in Chicago," he "ventures the opinion that it is not being done either in Chicago or any other place."

By looking over the same issue of the *Lithographers' Journal* we find a half-page advertisement in which it is stated: ". . . offset lithographic silver ink is a new and timely addition to the recognized standard offset lithographic inks. Our constant endeavor in research has perfected a product that commands your attention. It comes ready mixed. It is run the same as other ink. . . . A quantity for your test will prove convincing."

This seems to prove our case better than a lot of argument. We are fully convinced that the *Lithographers' Journal* would not run such an advertisement in its columns if the article advertised were impractical or impossible of use.

Further, Mr. Stark makes this statement, "The poster he referred to was a solid aluminum ink which was printed on a direct rotary press."

The point is not well chosen. The concern that printed the poster *has not a direct rotary press in its plant.* The superintendent of the firm in question recently stated in a letter to the manufacturer of the ink used: "The offset aluminum ink furnished by you has brought satisfactory results. In fact, one particular job, printed for a national advertiser, brought favorable comments not only locally but all over the country. We used aluminum ink under offset conditions with water."

Is further proof necessary?

We have no personal interest in this matter. Our only aim is to contribute our mite toward offset progress. The "can't-be-done" period is happily at an end.

Maple Tint Blocks

ONE of our Iowa readers wrote us recently as follows: "We have been using engravers' maple considerably during the last year for tint blocks, both square and of irregular shapes. We find this much cheaper than zinc blocks made by engravers, and it produces a higher grade of work than linoleum block printing, since the wood presents a much better printing surface than the linoleum and will stand up under a greater number of impressions.

"We will like to see a discussion of this in your magazine some time and believe that other printers would be interested and profit from such a discussion."

We pass the suggestion along. THE GRAPHIC ARTS MONTHLY is always open to discussions of benefit to its readers, and we believe that this is a subject well worth thorough consideration.

The "Special Job" Is Now Routine and More Profitable On the

Thomson "Colt's Armory" with Brighten Roll Leaf Feeder

Embossing and Stamping in ALL COLORS, Pure White and Metallic shades, on all materials and papers.

WITH ONE IMPRESSION!
NO MORE LOSS OF REGISTER
NO MORE BRONZING
NO MORE DUSTING
NO MORE SIZING

INVESTIGATE!

THE H. GRIFFIN & SONS COMPANY

New York: 65 Duane St.

Chicago: 701 S. Dearborn St. **Boston: 95 South St.**

THOMSON-NATIONAL PRESS CO.

INCORPORATED

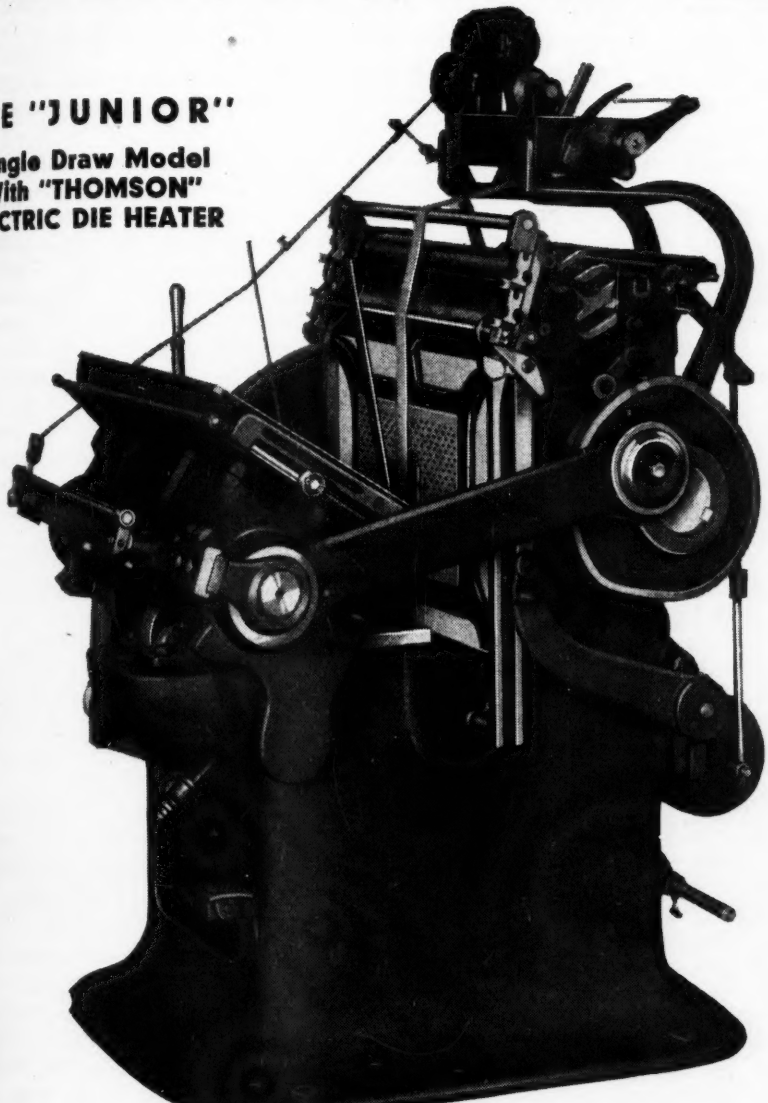
Chicago: 343 S. Dearborn St.

New York: 461 8th Ave. **Franklin, Mass.**

THOMSON "COLT'S ARMORY" PRESS WITH BRIGHTEN ROLL LEAF FEEDER

THE "JUNIOR"

Single Draw Model With "THOMSON" ELECTRIC DIE HEATER



The Roll Leaf Feeder attached as above shown does not interfere with the regular ink printing functions of the press. No mechanical change is necessary to change from one operation to the other.

Trade-Paper Advertising

By H. A. PORTER

Vice-President, Harris-Seybold-Potter Company

We Decided to Evaluate Its Immediate Results — by Tests

IT SEEMS that I have always been interested in trade-paper advertising. For some years I took it more or less for granted. I regarded it as something to be taken more or less on faith, as something about which there was an element of mystery.

It seemed to be more or less detached from sales — not a close relative, so to speak.

I was sold on it as on other types of advertising, but for the life of me I could not have explained just why.

In the machine-tool business we are necessarily an analytical crowd. We want to know why. One cannot work year in and year out with a precision tool without absorbing some of its principles. The "white magic" idea just did not fit in explaining its functioning in a company building printing presses and having won by its craftsmanship a position of leadership.

Harry A. Porter

I decided to investigate for myself—to get at the basic facts—unbiased and uninfluenced. These findings, necessitated by curtailment during the recent business recession, have given me the firm conviction that trade paper advertising will pay and does pay, rightly handled, definite and tangible returns on a dollar and cents basis. I have come to the conclusion based on our own successful experience in its use, that responsibility for its profitable or unprofitable use is largely at the door of the advertiser, and may rarely be shifted in major degree to either the publication or the advertising agency.

With us, advertising—trade-paper advertising—was either to stand or fall by traceable returns on the investment insofar as our use of it and appropriation for it were concerned. I determined to evaluate it, to discard the so-called intangible good, the pot of gold in the future, and to demand immediate returns and immediate results. Our own records are evidence of the degree to which this has been done—and to our trade paper advertising we credit to an appreciable degree the happy situation in which our company finds itself during these strenuous times.

Perhaps my own feeling has colored our use of the trade press; but that its results are everywhere in evidence in our selling picture—in signed contracts — seems to justify our methods. Personally I hate milk sop advertising just as I despise anything not able to stand on its own feet. I do not like compromises. I do not like too many claims nor exaggerations; I see plenty of this wherever I go in selling today.

The mere theory never did appeal to me without a factual basis to support it. I believe in straight thinking, in friendly man-to-man dealings, so I demanded this sort of copy in our advertising. The high-hat type is never popular with those of us who must be almost constantly on the road, and so again I wanted the advertising to be reasonable, believable, honest, and understandable.

I hear so much of specification detail that I wanted relief from finding it in the ads. Then, too, I wanted "to be shown" —the proof easy to get and applicable to what is being discussed. Scientific—yes I want it scientific, but to omit overprotestation of its scientific virtue.

I want it friendly without antagonisms —to have some strength of character, to be worthwhile. When I am tired from a trip I can imagine nothing more exhausting than to read some dry, uninteresting claims for Tom, Dick and Harry's product. Newspapers I like; they are newsy, timely, interesting, human. These are the things I want and have in our advertising.

You may think that I want too much; but when you must hear of this expense and that expense, of cutting down waste, of savings and economies through the elimination of waste, I saw no reason why trade-paper advertising or any other advertising should be a favored exception.

The man or product that has to be babied and shielded from the realities of life never interested me much, nor does advertising of this kind.

I see no reason for the advertising message—a sales message in print—being written by someone detached and removed from the problem of selling with which the advertising is basically concerned. And so we tied it into sales—tied it—not hitched it, to the sales wagon. It is part and parcel of sales.

I like to meet people—like my business of selling better than anything else in the world save my family. I want the advertising to present this sort of a point—to truly represent the company and the men who are selling the company's product. It is virile advertising then that is wanted and used.

My salesmen meet their customers and prospects on time; when a specified appointment is made they keep it. And so it is with our advertising; plates and copy are sent to the publications on time. It is merely good business.

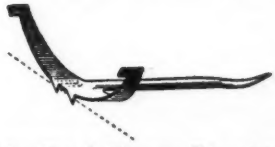
GEORGE R.
SWART
225 Varick St., NEW YORK
Telephone Walker 5-3157

New—Rebuilt and Guaranteed
Printers', Binders' and Lithographers'
MACHINERY
FOR SALE
AT ATTRACTIVE PRICES

2—No. 2 Miehle Presses, Bedsize 35"x50", with Extension Deliveries
2—Miehle Vertical Presses
1—27"x40" Miller "Major" Simplex Automatic Press, Complete
2—56" Cross Feeders, Late Type
1—No. 1 Christensen Stitcher Feeder
1—12"—20 Box Juengst Gathering, Stitching and Covering Machine

MEGILL'S
GAUGE PINS
FOR JOB PRESSES
Always Uniform. *First Quality.*

Spring Tongue Gauge Pin
$1.80 Doz.



Flexible Steel Gauge Pin 90c Doz.
Complete Circular on Request
The Edw. L. Megill Co.
The Pioneer *Est. 1870*
763 Atlantic Ave. Brooklyn, N. Y.

The fellow who panhandles on the street does not get very far today in the real need on every side, when dollars more than ever before must be counted and recounted before expenditure. This is the way I feel about hand-out advertising; it is not good business and we are not doing it.

So far in life I have managed to retain my zest and enthusiasm for living; of good things I have never had too much, often I think not enough. Again it is this way about our advertising. We have never done too much, never done enough, in fact; but what we do we cash in on to the full and expect to continue to run more some other day.

It is a very real and very human thing we have made out of our trade-paper advertising—and profitable, or from what I have said, you know we would not be doing it.

I have told you what we have done to make our trape-paper advertising pay—and make it pay we have. It has been told you plainly and without mincing words. We believe in the future, but to live we must believe too in the present. Our advertising takes both into account. I have long since passed the days when I believed in haphazardly throwing dollars in the laps of the gods, hoping against hope that some way unknown they will come back after many days.

In our selling we do not expect to make the average sale the first day; neither do we expect to run an isolated ad, expecting it to produce a miracle. We offer our salesmen additional sales assistance whenever needed. We do the same thing in our advertising; one ad supports another; the ads support the sales effort; the sales effort supports the ads; it is a composite thing this sales and advertising picture that we have built up. Pragmatically it is good; it works, to say the least. I have found it in line with the best standard advertising practice, found that it takes into account the myriad things that good advertising practice has learned in the costly school of experience—learned but too frequently not assimilated in the hundreds of millions expended annually by the businesses of this country, large and small.

There is no attitude with us of too proud to learn. Advertising representatives are welcome. We learn from them the facts about their own publications that we must know to make our advertising most productive—facts that without them we would encounter endless difficulty in obtaining. These men are treated as company guests; we travel men too and want them to be accorded the same courtesy. Agency and agency representatives are likewise welcome and valuable suggestions garnered. We want our men to get the truth—no "bum steers"—no "soft soaping," no false encouragement in lying inference. This is sound business and makes friends.

To discuss with you the percentage we expend in advertising against net sales would be of no value by reason of the individual differences in business, products, markets, and marketing methods. But this much may prove of interest: we do not believe in half-way measures. We would never build a machine in such a way, neither will we advertise on such a principle. We will spend more to increase some trade-paper schedules, and add others when our fact-findings justify it.

In planning our advertising, we prepare a schedule which is sufficiently flexible to meet the ever-changing situation. We do not believe in the opportunist type of advertising. Copy for different papers is not always the same during any one month. We take into account the differences in individual markets. But through all our ads one fundamental theme, basic in our business and with news value, is emphasized.

We support advertising with news stories offered to trade papers for acceptance solely on the basis of their news value. Canned publicity is taboo. When we have nothing of outstanding interest, we do not mail anything. When we have a real story, we send it.

By keying our ads to differences in markets and providing for individuality of the papers in which they are to be run; by tieing them integrally into the selling pictures; by using readable, believable, and newsy copy we have made our trade paper advertising a definite asset—an investment for profit in the present as well as for the future. In doing these things, we have increased our own respect to an unusual degree for the value of trade paper advertising.

The Ben Day Process

Although this process is almost as old as the hills, there are yet many printers who do not know its purpose and many uses. It was invented by an engraver named Benjamin Day; hence its name.

Ben Day's basic purpose was to find a means of introducing shades and tones—mechanically and uniformly—into simple outline drawings for line cuts. With the hundreds of patterns for Ben Day work now available, and the possibility of using several patterns in combination in one engraving, the effects which can be obtained are almost endless.

With the Ben Day process it is possible to fill any open area in a line drawing with a shading, a tint, or a pattern, which approximates the tones of a halftone, yet which, in its proper place, may be even more interesting. Patterns and cross-hatching by this process are accurate because mechanical—to a degree which no artist can approach by hand methods. The weave of a fabric can be suggested by a Ben Day pattern. Soft tones or brilliant contrasts can be built.

Selecting the proper pattern or patterns for each job is a matter requiring careful study, but excellent results may be obtained by the help of your engraver.

For better printing use good paper. No printing is better than the paper it is printed on.

"It's a Challenge"

. . the buy-word" for profit-minded printers for over half a century . . .

The CHALLENGE MACHINERY CO.
GRAND HAVEN, MICH.
CHICAGO NEW YORK

USED EQUIPMENT —REAL BARGAINS

Terms strictly cash — Guarantee satisfaction or money in full refunded.

2 Rebuilt Model 5 Linotype Machines
2 Rebuilt Miller Saws
1 C & G Saw complete
6 Full size Linotype Magazines
2 Full size Intertype Magazines
Rebuilt Lino and Int. Elec. pots complete with panel boxes—Lino & Int. A.C. or D.C. motor drives—Molds—Aux. Mags. — Monomelts — Margach Feeders—Etc.—1–12 swing arm Lino Mag. Rack—1 Margach 6 ingot water cooled mold—3 Model K Magazines —Etc.
New 6" Miller Saw Blades $2.90 each

WILLIAM REID & CO.
537 S. LA SALLE ST.
CHICAGO Est. 1912

What Some of Our Correspondents Write

Men must be at liberty to say in print whatever they have a mind to say, provided it wrongs no one.—CHARLES A. DANA.

Page Costs of Daily Newspapers

Dear Martin: In your letter of February 6, with which you enclosed three pages of THE GRAPHIC ARTS MONTHLY for February containing an article on "Newspaper Page Cost," you ask if it is possible for me to send you an article outlining the best way of finding the cost of such a page.

There is no uniform cost finding methods, as far as we know, for the large daily newspaper. The daily newspapers are not interested in hour costs as newspapers are not estimated or sold on this basis. The Standard Cost Finding System, however, is well adapted for and used by many of the so-called country newspapers where commercial printing as well as the weekly newspaper are both under one administration and printed to some extent by the same equipment. In such cases, each issue of the newspaper is costed in the same manner as any other job going through the plant. The Standard Cost Finding System, as we well know, is equally adaptable to all divisions of the graphic arts industries.

In operating the Standard Cost Finding System in the combined plant above referred to, a special Newspaper Individual Job Summary is used on which is ascertained not only the total cost of the issue, but as well the total news costs and the total cost of advertising. In addition, there is obtained the cost per page per issue, proportion of news to advertising for the entire paper, the *cost per inch of advertising,* difference between news cost and income from sales and subscriptions, which burden must be borne by advertising; and cost per inch which advertising must carry to cover deficit between cost of news and income from sales and subscriptions.

In operating the Standard Cost Finding System in the country newspaper, the particular newspaper expense, such as editorial and news features, circulation, solicitation, etc., are not included in the factory hour cost; but the total of these items is applied as a percentage of the cost of completed work of each edition of the newspaper.

The foregoing is just a little explanation in connection with the Standard Cost Finding System as adapted to country newspapers and as I thought it would be of interest to you personally if you are not already familiar with the way in which it is operated.

Certainly glad to hear from you, and with kind personal regards.—F. W. FILLMORE, *Director of Finance and Accounting, United Typothetae of America.*

Washington, D. C.

Hand-Lettered Covers

Good Morning, Folks—

I've just finished going over the February issue of GAM, and since a few things therein have gotten under my collar and I want to get them out. Hence this letter.

First, I don't agree with Mr. Gloeb from Omaha on the matter of having type-face covers in preference to hand-drawn ones on GAM. This magazine is primarily to show printers the better things that can be done. It is a well known fact that commercial art is being more widely used today than ever, and while many subjects can be well covered by the use of type I take the attitude that hand-lettering and illustrations give words and lines of type greater personality and character than can be secured through existing type faces. Hand lettered type is created to fit a special situation of very specific character, and usually by skilled artists. I have recently developed some unusual advertising pieces which could

not have been "effectively" produced without the use of hand lettering and illustration.

The use of type on your cover would, as Mr. Gloeb says, probably save you some money, but I'm afraid you could not produce as attractive a cover, nor would you be showing the printers the true value of "art" in printed salesmanship. You use type on the inside very well which should be sufficient, and I hope you will continue with the use of different style hand-lettered covers, so as to help the artists and engravers over the "depression" if there is one.

On the other hand, while I was inclined to disagree with Mr. Gloeb, I'm inclined to agree with Mr. Stuart on his article "The Craft Should Advertise." It is truth well spoken. I have no axe to grind on any matter, but I *am* deeply interested in the trade, in my fellowmen, and I know that many of the failures in the craft are due to poor advertising, and in many cases of not advertising at all.

I am deeply interested in this phase and I am devoting considerable of my time to the study of problems along this line, especially those which confront the small plant owner. We here have increased our advertising in all lines and just this past week on a mailing (test) of a mere 400 pieces have had a return of *10 per cent* (mailing made March 2—10 per cent calculated on March 7th) and I believe that our returns on this mailing will reach the *thirty* per cent mark before the end of the week. This shows that business must be on the upward swing.

Of course, I realize the position of many small printers all over this country; hence the reason for my article which you now have had for publication for about two months, and which I firmly and sincerely believe will form a solution for the small printer.

There are many small printers, it is true, who do not have the ability to take the step. They are good printers—even *masters* we will say when it comes to doing actual printing work, but when it

Dexter Folder Co.

Offers

Rebuilt Equipment

Cleveland Folders

1—Model "K" (38x50) with feeder.
1—Model "O" (19x25) with pile feeder.
2—Model "B" (25x38) feeder optional.

Dexter Folders

1—#189-A (35x48) fully equipped.
1—#191-A (44x58) fully equipped.
1—#121 Quad. (42x56) fully equipped.
1—#104 D/16 (42x56) fully equipped.

Dexter Press Feeders

1—Suction (CS) (45x65).
1—Suction (CS) (42x56).

Christensen Stitcher Feeders

1—#1 Standard (3x6—12x27) 2 Hds. 2 Stas.

Cross Press Feeders

1—Size 35 x 48.
1—Size 41 x 56.
1—Size 46 x 65.

Cross Folder Feeders

1—Size 42 x 56.
1—Size 25 x 38.

Brackett Safety Trimmer

1—Size 21".

These machines are thoroughly rebuilt at the factory and are guaranteed to do their work as well and accurately as when they were new. They will be sold at prices which will merit your early investigation.

Communicate with our Used Machinery Department for complete information. No obligation to you.

Dexter Folder Co.

28 West 23rd St.

NEW YORK CITY

Anderson Bundling Press

Handy and powerful. It bundles and smashes folded signatures and circulars, thus saving time in trimming, gathering and inserting. Solid steel gears compounded give tremendous pressure easily and quickly. More than 800 in use.

Write for Details

C. F. Anderson & Co.

Folding Machines—Upright Trucks

3229 Calumet Avenue CHICAGO

Sigwalt "IDEAL" Presses

"Ideal" Press Number 5

All models are fully guaranteed. Complete with rollers and chase. Built as carefully and critically as a cylinder press — and will do the finest kind of work.

Write us for descriptive circular and prices.

Sigwalt Mfg. Co.

2011 N. Lawndale Ave.

Chicago, Ill.

VARNISHING
GUMMING
ROUGHING
TINNING
PARAFINING

AMERICAN FINISHING CO.

508 South Peoria Street, Chicago

comes to advertising they are like a year-old baby in a high school; they just wonder what it's all about. Nowadays, you can't get out a simple blotter this month, then several months later get out another small piece; it takes *continuity*, and it must be done "right." If the printer himself can't write the copy, he should have an advertising agency do it—not at a price, but to get results—and that's where most printers are up against it. They cannot afford to hire an agency or ad man who has a *reputation*, and they hate to risk hiring someone who does not seem to have the ability; and we of course do not blame them.

I know of a young fellow who started out in 1925 with a 3 by 5 hand press and a love for the business. He grew steadily; but in 1931 he was hit as hard as any small printer with an 8 by 12 and a 12 by 18 could be hit. But did he give up hope? I'll say he didn't. He got hold of an advertising agency (being somewhat of an ad man himself) and got them to produce the copy for a series of six sales letters to sell his services. He next connected with an artist and had the art work done. Then the engravers and then he himself went to *work*. We'll tell you the finish of this story at the end of 1932—David E. Fisher.

Hummels Wharf, Pa.

No Printing Without Makeready

Gentlemen:

I do not believe the article on page 35 (February) was meant to appear ludicrous, nor is it my intention to have it so; but who is foolish enough to think that halftones or other cuts of any line can be printed without makeready, either underlay or overlay? Laying aside the fact that no cuts are perfect, it could not be done and produce desired results. There are two kinds of cuts which are most in vogue today. One is the soft type with a slight copper coating to hold it up and is locked on a special bed on the press with screw clamps; the other is a hard

copper face mounted on a block of wood. Let us take No. 1 cut. Certainly its nature will allow it to conform to the cylinder, but it will not make itself ready. A good underlay will eliminate a lot of overlaying and save plenty of the pressman's time; a well marked-out overlay, combined with a solid packing (or tympan if you prefer that word) will give you the results.

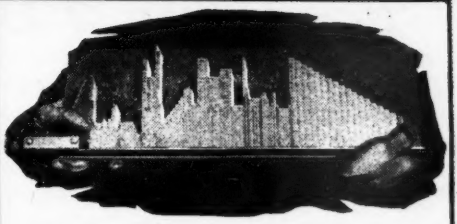
Now for No. 2 cut. Here you run into many more troubles. First, you must level your cut using a type-high gage. (Just a minute of digression: does any one think so foolishly as to say that by putting an underlay on the block itself or dismounting the plate and pasting the underlay on its back that it will do the trick? Never, for neither plate nor block will give that much.)

As to its making a mat on the packing; how, may I ask? And as to ruining or spoiling the cuts; not so, for if the proper care is taken when the form is made ready the cut or plate is hitting the cylinder evenly. Yes, I know that the deep detail must be made heavier in order to set off the highlights; but just the same, a cut mounted on a block of wood has to be overlaid, and if the writer of the article will make this test perhaps it will help solve some of the difficulties. After the pressman has put a form of cuts on the press and leveled it up, measure the cuts. When he is finished, measure them again, and he will soon find that he'll need a mighty fine glass or calipers to note any difference. The last paragraph of the comments we all agree with, for when it is no longer necessary to make forms ready we will have attained what Mohammed looked for.

This paragraph is for you and THE GRAPHIC ARTS MONTHLY. I would not be without mine. Anyone who reads and studies this magazine is preparing himself to meet his future problems.—J. REYNOLDS MCDONALD.

Tyrone, Pa.

Editor's Note: This refers to a discussion in a craftsmen's club in South Africa.



Straight as an Arrow

From *Linecasting Machine* To *Make-up!*

SLUGS sawed the Mohr Lino-Saw way go direct from the linecasting machine to their place in the form, without needless handling of any kind. Every odd-measure slug is instantaneously and automatically sawed at the linecasting machine, and delivered to the galley as a completely finished product.

● ● ●

By eliminating detours to the floor saw, the Mohr Lino-Saw speeds up and systematizes the entire composing process. It provides a practical way to cut composing room costs through the elimination of wasteful and unnecessary operations.

● ● ●

Write—**now**—for a copy of "Automatic Slug Sawing." It will tell you just what the Mohr Lino-Saw can accomplish in your plant, and on your type of work.

MOHR LINO-SAW COMPANY

609-13 W. Lake Street
Chicago, Ill.

Preservation of Leather Bookbindings

By BERTEL O. HENNING

THE United States Department of Agriculture through R. W. Frey and E. P. Veitch has devoted much study to the causes of and means for preventing deterioration of leather, and, as published in the *Scientific American*, tabulated the following preparations as each being suitable for treating leather-bound books about once every year or two:

PREPARATION NO. 1

	Parts by weight
Neat's-foot oil, pure, 20° C. cold test	25.0
Lanolin, anhydrous	17.5
Japan wax, pure	10.0
Sodium stearate, powdered	2.5
Water, distilled	45.0

PREPARATION NO. 2

Lanolin, anhydrous	30.0
Castor oil	12.0
Japan wax, pure	5.0
Sodium stearate, powdered	3.0
Water, distilled	50.0

PREPARATION NO. 3

Lanolin, anhydrous	50.0
Neat's-foot oil, pure 20° C. cold test	35.0
Japan wax, pure	10.0
Sodium stearate, powdered	5.0

PREPARATION NO. 4

Lanolin, anhydrous	55.0
Sperm oil, winter strained	25.0
Japan wax, pure	15.0
Sodium stearate, powdered	5.0

It is important that the materials used to make the preparations be of the best quality and practically pure.

These dressings are not difficult to make but if desired can be compounded by a commercial chemist. When making the preparations the ingredients should be melted or dissolved by heating them on a steam bath or in a double boiler. Scorching or burning is likely to result from heating directly over a flame.

Preparations 1 and 2 are emulsions with water and can be made in the same way. Melt together in one container all the ingredients except the sodium stearate and distilled water. Mix the sodium stearate and the water in another container. Cover this container and heat slowly and gently until the stearate is dissolved. Then pour the sodium stearate solution in a thin stream into the melted grease while stirring vigorously. A thin milk-like mixture will result. Let this cool. When the mixture is about cold it will be noticeably stiffer and from this stage on it should be constantly and thoroughly stirred until uniform in appearance. If properly made, these dressings will be very smooth, ointment-like, nearly white to pale cream preparations without any separations of water. If the emulsion separates in two layers, it can be restored by vigorously stirring or whipping the mixture when it is cold. These preparations should always be kept in a container with tight-fitting cover to prevent evaporation of water and consequent drying and hardening.

Preparations 3 and 4 are made by heating the specified ingredients together in one vessel until all but the sodium stearate powder have melted. The mixture is then poured on a smooth non-absorbing surface, such as a piece of plate glass or stone and worked with a spatula as it cools. The small white particles of sodium stearate are "rubbed in" with the spatula and thoroughly worked into the other ingredients until a salve-like mixture is obtained, perfectly uniform in appearance and without any lumps or white specks. It is essential to work in the sodium stearate as described.

At the outset it should be realized that any oil or grease will darken to some extent law, tan, and other light-colored leathers and may slightly dull the finest even though the color be black.

Good judgment should be used in applying oils, greases, or dressings to leather bindings. Care should be taken not to put on so much that the leather will remain greasy to the touch, yet enough should be applied to oil the

leather well. Only a thin film of the dressing should be applied at a time. Repeated applications of small quantities should be made until the leather is well oiled. Intervals of several hours should elapse between applications to enable the leather to absorb the oil or grease. The back and hinges of a binding usually rot more rapidly than the sides, and consequently more oil and grease should be applied to these parts. This should be done especially when treating bindings that are already beginning to show decay. In order to increase the rapidity with which leather absorbs oils and greases, as well as the actual quantity it can absorb without remaining greasy, bindings should be put in a warm, but never hot, place for an hour or two after oiling. The temperature should be about 100 to 115 degrees F.

Dressings are best applied with the fingers and palm of the hand. Use a firm rapid stroke and spread the dressing over as much of the leather at one time as is possible, in order to distribute the oil and grease uniformly. The dressing should be rubbed well into the leather and not merely smeared on it. It is the oil that gets into the leather that counts, not merely on it.

Dry, porous bindings that show a tendency to peel or to be powdery are almost impossible to oil uniformly. Leather in this condition is very absorbent and literally grabs the oil as soon as contact is made with it. After such bindings are oiled, areas of the leather having unequal depth of color are almost inevitable and the middle part of the back between the hinges will be darker than the leather on each side unless the binding was originally very dark or black.

Millions of leather bindings of books now in use are in various stages of decay. Some show little if any sign of decay; others can be scratched easily and have worn corners and slight cracks. Many are badly scuffed, powdery and dusty, and are broken through along the hinges. They must be rebound to be serviceable.

The timely application of a dressing, such as any one of the preparations listed, will add many years to the service of a leather binding. Such dressing lubricates the fibers, thus imparting flexibility and strength to the leather. They also protect the fibers by rendering them less absorptive and more impervious to the harmful gases that are in the air.

Paper from Peat

European scientists are examining the possibility of getting good paper from the peat bogs of Germany and Ireland and other fibrous-bearing marshes. Engineers in Munich claim to have found a new chemical and mechanical means of treating the raw material so as to produce not only strong paper but the cheapest artificial silk on record. The moorland in southern Bavaria contains about half a million acres and experiments are now being made with the idea of developing that section into a profitable part of the country.

Fountain Rectifier

Unique in conception is a new fountain rectifier for cylinder presses. This device is attached to the driven end of the ink fountain roller and reverses the direction of rotation at regular intervals. The reverse movement prevents the collection of sediment, paper particles, and heavy particles of pigment at the bottom of the fountain blade.

The ink and the heavy sediment are thrown from the bottom towards the top of the fountain, and the clean ink thus drops down from the back. An even flow of good ink to the ductor roller is assured. Foreign matter that is carried back into the body of the ink will mix therewith and is finally let out from the fountain in small quantities without interfering with the uniform flow of color.

Use the Twentieth Century Encyclopedia of Printing for your problems.

When Printing on Greaseproof Stock

From THE GRAPHIC INDUSTRY, *Australia*

Parchment, Wax Paper, Celluloid, and Cellophane Printing

MANY of the enquiries recently received indicate that the demand is increasing for printing on special kinds of paper presenting considerable difficulties to the printer, such as is used for wrapping butter, grease, lard, dripping, etc., and that there are doubts about the technical requirements for printing on such papers.

Many difficulties are caused by ignorance in the use of suitable inks for a particular paper. Complaints generally refer to inks that have not dried sufficiently, and to others that have dissolved. Sometimes the ink even penetrates the paper and spoils the goods packed in it.

Butter, dripping, bacon, cheese, etc., is generally wrapped in parchment, imitation parchment, new parchment, pergamyn, or metal foils. These papers differ in appearance, transparency, sound, and price on account of varying raw materials and methods of manufacture. Parchment is made by means of treating pure rag paper with sulphuric acid, thereby giving it a gelatinlike appearance with a hard surface. Parchment is opaque and tough. It may be recognized by the absence of fibres when tearing a piece of it and it has a slight taste of sulphuric acid when wetted. It does not alter its appearance when boiled. Imitation parchment and new parchment are made from chemical or mechanical pulp and treated with gelatin. Pergamyn consists of sulphite pulp that is ground hot for a long time and to which is added glycerine, much size, grape sugar, etc., resulting in a transparent glossy and rustling material.

The raw materials of these papers and the way they are finished decide how they may be employed and whether they are suitable for printing. As these papers are mostly used for wrapping greasy goods, it is of prime importance for them to be greaseproof. There are two methods for testing whether or not the wrapping papers are greaseproof: the so-called bubble test and the test with oil of turpentine. To carry out the bubble test, a piece of parchment paper should be held for a little while over an open flame (candle, gas flame, match) when bubbles as large as the head of a pin up to the size of a bean develop with a crackling sound. The heat creates vapors within the structure of the paper which can only escape with difficulty through the hard surface and therefore turn into bubbles. The denser the surface of the paper is, the more bubbles will appear. With a few exceptions parchment paper that forms bubbles over an open flame may be regarded as being greaseproof. The test, however, will be more reliable if, apart from the so-called bubble test, the paper is examined with oil of turpentine by placing a piece of the parchment paper on a sheet of writing paper, pouring a little oil of turpentine on it, and distributing the oil with a piece of cotton wool. Real greaseproof paper will not allow the oil of turpentine to penetrate. Should, on the other hand, the paper not be greaseproof, the sheet of writing paper placed under the tested paper will show traces of oil. The test with oil of turpentine is particularly important for papers which are to be used for wrapping butter and dripping.

These brief remarks are an essential introduction to the subject of this article, because we have gathered from the en-

quiries received by us that often excellent printing results have been obtained on papers which are not greaseproof, but that unpleasant complaints were received after delivery had been effected and greasy goods had been wrapped in the paper, which frequently gets wet when packing. The claims are particularly annoying if the printer has been supplied with paper where, probably due to an over-anxious desire for economy, more attention has been paid to the price of it than to the quality required in the circumstances. As it is very easy to carry out the paper tests as described above, and neither costly nor cumbersome, such parchment paper should always be tested before ordering it or before using it for printing. Many disappointments and much damage can then be avoided.

Difficulties With Parchment

Certain difficulties will be encountered when printing on parchment paper on account of its hard structure and its firm surface, into which the inks cannot enter. And the stronger the parchment paper is, the more difficult it will be to print on it. Parchment paper requires a very hard packing and careful makeready. With moderate pressure the hard packing will wear type and cuts considerably less than the soft packing which has to be compressed until it meets with sufficient resistance when printing on hard papers, and this is exceedingly detrimental to the edges of type faces, etc. Worn type should be adjusted from below. Plates, particularly electros, have to be carefully prepared with an underlay and, if possible, mounted on iron bases, so that the rollers need not be set too low and consequently be damaged or fail to ink the form adequately. Parchment paper has to be printed with very stiff ink. Glossy inks have met with considerable success, but it is quite practicable to add stiff lithographic and bookbinders' inks to the letterpress inks. Any addition of grease, vaseline, oil, etc., taking the adhesive power out of the ink, should always be

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Write—now—for suggestive folder.
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All regular sizes and weights, White and India. Samples gladly furnished. Shipments made and prices quoted on sheets to cars.

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avoided. A drier should be added to all inks.

Any quickly drying paste is much better than siccative, because an excessive quantity of drying paste does not have an opposite effect and render the ink sticky. The quantity of the drier to be added in the case of parchment paper is not limited by picking, but by drying of the ink on the rollers. It is advisable to produce a few sample prints (possibly only with a hand roller), in order to test the drying of the ink the next morning and, if necessary, to alter the proportion of the drier. The rollers and the inking mechanism should be washed before every prolonged interval and in any case every evening on account of the quickly drying inks.

The inks only adhere with difficulty to the hard and close surface of parchment paper. It is therefore an advantage to interleave hard parchment paper before printing and, because it gets slightly wavy which interferes with good feeding, to compress it with a weight until it has completely dried. It is not absolutely necessary to interleave the printed sheets for the purpose of avoiding setoff, but it is nevertheless an advantage, particularly when the paper had been damped and may then dry in the slipsheets. There are also drying agents that accelerate the drying action to such an extent that it becomes unnecessary to interleave the printed sheets. Special care has to be exercised in the case of butter wrappers. If these have setoff, it is certain that complaints will be received on account of the printing having spoilt the goods.

It is generally not quite so difficult to print on pergamyn paper as it is in the case of parchment paper. Pergamyn accepts the inks more willingly, but it is much more liable to setoff and the printed sheets often stick to one another. The packing in the platen or on the cylinder should also be hard and a careful make-ready is likewise very essential. Letterpress inks mixed with drying paste dry with a gloss on the transparent and glossy pergamyn, but it is better to employ

glossy inks specially made for this purpose. Although these are supplied for quick drying, it is necessary to add quick drying paste for most kinds of pergamyn papers. It is an erroneous view to assume that inkmakers add the sufficient quantity of a drying agent for particular papers to these inks. In such a case the inks would soon become resinous in the tins and be unsuitable for use after some time of storing. Often complaints were made in connection with inks that had been stored in the printing office for many years and revived by all sorts of means. Also small quantities of ink left from other jobs and containing weak varnish, oil, grease, vaseline or paraffin have the disadvantage on pergamyn when they are quickly dried by means of adding siccative that they may be completely wiped away from the smooth and hard surface, because owing to the presence of such driers the ink cannot adhere to the paper. Therefore, when printing on pergamyn, the inks should be as stiff as a smooth running press will permit. If it cannot be avoided to make the ink thinner, then weak varnish only should be taken, but never grease! It is also risky to sprinkle paraffin on the rollers when the ink gets dry.

Frequently apparently mysterious cases, where only now and again part of the job would not dry, were due to applying or sprinkling unsuitable agents on the rollers from time to time. If the ink mixed with rapid drying paste dries on the rollers, it is much better to wash the rollers and to add some ink that does not contain a drier. When printing on pergamyn paper, the paraffin can should be regarded as a bottle of poison. To prevent the ink from drying on the unused areas of composition and metal rollers, small pieces of rags saturated with oil should be placed in the ink fountain; such areas should be separated from the ink sections by close-fitting blocks.

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They Expand
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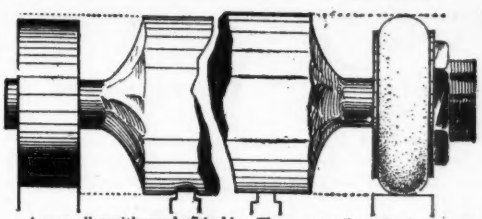
Morgan Trucks can be instantly adjusted on each roller, so that they ROLL evenly over the form and at just the right pressure. Rollers and Trucks should roll, not slide.

8x12, $7.75 Set 10x15, $8.00 Set
12x18, $9.00 Set 14½x22, $12.00 Set

See your dealer or write us direct
Morgan Expansion Roller Truck Co.
P. O. Box 216, Hollywood, Calif.

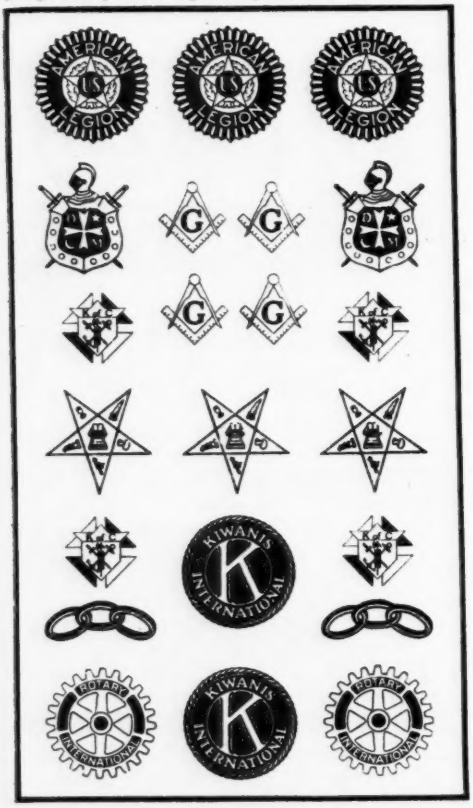


A new roller with regular steel truck—showing effect of pressure on type. Brass rule would cut the rollers to ribbons.

The same roller raised to exact type height with Morgan Trucks. Insures clean printing without cutting of rollers.

$1 for this font of EMBLEMS
POSTAGE PREPAID

M & H Handy Font No. 3
(22 pieces, foundry cast, extra hard metal)



MACKENZIE & HARRIS
INCORPORATED
659 Folsom St. San Francisco

Enclosed find $_____ for which send
_____ fonts No. 3, postage prepaid.

NAME _____

ADDRESS _____

The lateral movement of inking cylinders should be reduced to a minimum. When two or more colors are printed over each other on smooth hard pergamyn paper, special care has to be exercised, particularly if glossy drying siccative is used instead of drying paste.

The first color must not have become resinous when the second is being printed. Therefore large quantities should be printed on several machines. Siccative has the disadvantage on pergamyn that it sticks later when the printed sheets are stored in warm rooms. Glassy and thin inks appear to be particularly transparent on pergamyn. If this failing is remedied by using an increased quantity of ink, the edges will slur and delicate designs will soon be smudged. It is therefore much better to add from 5 to 10 per cent body color to such inks. A white gives more body to the inks, it makes them stiffer and dries better than many other inks, but it does not harmonize chemically with all inks on account of the nature of its ingredients. Therefore care should be exercised! By adding body colors it is possible to print with less ink and obtain a clearer impression.

Care has also to be exercised when adjusting the rollers for quick drying inks as they are required for printing on pergamyn, because they easily get warm and soft and may even melt. The rollers must not only be set accurately type-high and slightly cover the form previously prepared with an accurate underlay, but should also be eased to the sides as much as possible. Old shrunk or beating rollers have to be fitted more firmly at the sides, and therefore they have not such a long life as loosely set newer rollers. Newly cast rollers should be avoided.

Imitation parchment and new parchment are cheap grades of parchment paper. They have not such a hard and smooth surface as parchment paper and pergamyn and require plenty of ink. Instead of printing with much thin ink, it is better to use ink which has been given a certain amount of body and to use it

sparingly. The same methods apply as mentioned in the case of parchment paper and pergamyn.

Celluloid and Cellophane

Wax and paraffin papers present considerable difficulties to the printer on account of the greasy coating. A hard packing, careful makeready and stiff quick drying inks are essential. Colors having a body are an advantage also for these papers. The inks adhere more easily to the wax and paraffin paper if they are slightly warmed before printing. The printer sheets are preferably shelved individually for drying.

Tracing linen requires stiff and quick drying ink to which some varnish should be added. Stiff bookbinder's inks may be used with advantage. According to the form and requirements it may be advisable to print a preliminary coating of grey containing body white and some black.

Celluloid and cellon, which are rarely used for printing, require care and experience. Ordinary jobbing and book work ink will not adhere at all to this smooth and hard material. The ink has to be stiff, sticky, and should dry quickly; it will adhere better to celluloid and cellon if the latter is moistened with methylated spirits. Plenty of ink has to be used and there must not be any shaded parts. All type and blocks should have sharp edges, because worn type, etc., will never produce clear and satisfactory results. The makeready has to be carefully prepared on a hard packing. The printed material has to be exposed to the air for drying.

Cellophane is required today as reliable and hygienic packing material for bags, etc., as well as printed for publicity matter on account of its being as transparent as glass as well as unbreakable. According to requirements, cellophane may be printed on either side. In view of the fact that printing ink cannot enter into the

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hard surface of cellophane in the same way as in paper, special inks are required which, on the one hand, must have a certain consistency and be able to adhere well to the cellophane, but, on the other hand, must produce an elastic film after drying. On no account should inks for cellophane be hard or sticky after drying. These special inks generally have body, although special transparent inks will produce attractive results, particularly when other inks are printed thereon as in the case of wrappers for fancy boxes, etc., where the printing is generally on the inside of the wrapper. All inks for printing on cellophane contain much drying paste. They therefore dry easily on the rollers and soon form a skin in the tin. After storing them for some time, these special inks will dry completely in the tin. Therefore only the quantity required at the time should be ordered. It will take two or three days for the ink to dry on cellophane. To accelerate the drying process of such inks, hard driers, should be used, and not surface driers. If several colors are required to be printed on each other, it will be necessary to print a sample. For printing on cellophane, the packing, the makeready, and the treatment of the finished prints is the same as in the case of celluloid and cellon. Feeding the thin kinds of cellophane is considerably more difficult than feeding on paper. It is therefore necessary to provide for plenty of overs.

Metal foils require stiff, adhesive, and special quick drying inks in order to ensure perfect adhesion and hard drying on the smooth metal surface. When printed metal foils are shaped (drawn) after printing into box lids, etc., on special presses by a hot process, the inks will have to stand a heat up to four hundred degrees. The ink makers have to be especially advised if the printed metal foils are intended for wrapping cheese. Cheese wrappers are printed with inks that dry hard and are unaffected by the influence of oil and fat acids so that they do not change color.

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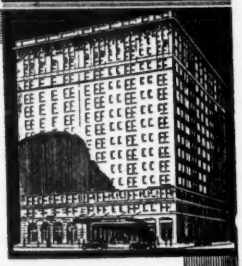

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New Inventions, Equipment, and Methods

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The Blow-Up Halftone

By this process, which in reality involves a number of different processes, according to the particular subject in hand, it is possible to get coarse screen printing qualities, plus pleasing effects in many ways entirely impossible by direct-from-the-copy coarse screen newstones by the usual process. Nearly all of the striking halftone process newspaper advertising illustrations of fashions, cigarette and tobacco, proprietary medicine portraits and many other subjects are results of the "blow-up" process in some form.

The advantages are better detail and roundness; solids where solids belong, and highlights where they are most effective; and all in a plate with printing and duplicating qualities wholly impossible by ordinary "newstone" reproduction methods.

Its uses and modifications are almost endless, especially on illustrations where the original plate is to be used as a pattern plate for stereos or mats for reproduction in a number of publications. For such purposes the higher cost of the one original plate is a small item and certainly the best investment any advertiser can make. For illustrations to appear but once in one single publication the price which is, of course, higher than ordinary, coarse screen newstone work, prohibits their use in most cases.

While any attempt at a detailed explanation of the process would only be confusing, it may be mentioned that the process is "indirect" since the screen negative is not printed and etched directly on the metal as in the regular newstone procedure, but is reproduced as a photo-enlarged print, the artist doing all necessary work of this print to get the effect desired. The final negative is then made from the retouched print, transferred to metal and etched as usual.

Any firm which spends money for space in newspapers in which the illustrations are in halftone, and where the same advertisement will run in a number of different papers, or as a repetition of the same illustration in one or more publications, is certainly losing the opportunity to double the effectiveness of the advertising at a small expense if it does not investigate and make use of the "blow-up" type of illustrations.

Color-Spraying Machine

A Dr. Shuerley has been demonstrating in West Coast cities a machine which sprays colors on any printing material, including paper, glassine, cellophane, metal, etc., the spraying being done so rapidly that from five to ten colors can be printed in less than half a minute. The device has been named Koloprint machine and it is the intention of Dr. Shuerley to also show it in New York and Chicago. It is manufactured in Cologne, Germany.

The machine consists of a large round table mounted on a metal base, the colors being sprayed or blown, one color after another separately, through steel plates of the stencil type, the color plates revolving to the "blowing point" while the printing material remains stationary during the operation.

The table which has recessed frames holding the "Koloprint" special steel designs (which replace plates or stones) revolves on ball bearings. It is a tilting device fitted in a special rubber housing of a most ingenious construction, which enables the steel designs to cover the paper, glass, card, metal or other material to be printed. The frames are made of bronze alloy with a locking device that enables the steel designs to be held firmly and accurately in position for perfect registration. The "Koloprint" steel color designs

are held magnetically in position as they revolve from one color to the other by means of a specially constructed and powerful magnet which is operated and controlled by a new mercury-vapor transformer. The magnetic power is automatically released by means of a new mercury-vapor controlled resistor.

An Anti-Livering Compound

An ink concern in St. Louis is offering a certain compound which is said to restore livered ink and to prevent livering of other ink. Investigation of the problem has led the makers of the new product to the conclusion that livering is caused, not by a high fatty acid conent, but rather by oxygen in the varnish caused by the blowing process which the dark linseed oil varnish goes through. In restoring livered inks, treatment with one-eighth of an ounce of the new compound to each pound of opaque ink, or one-half to one ounce for a transparent ink, is recommended.

Aluminum Ink

The vogue of metallic ink printing is on the increase, says J. H. Meyer of the Aluminum Company of America. "The reason for its growing possibilities lies, of course, in its adaptability to modernistic designs. The use of metallic inks received great impetus last year. It does not take figures to show how great the increase has been. It is necessary only to bear in mind that the *Saturday Evening Post* alone, in the first year of metallic inks in large national publications, ran fifty-five pages involving their use.

"Since the first aluminum and sepia advertisement printed rotary-wise appeared as a 'double truck' in the January 4, 1930, issue successful experimentation with this new development has made it possible to consider and pay for aluminum ink at regular rates as for any fourth color. Other large-circulation, high-speed publications have followed suit. Tradepapers and magazines of smaller circulation, printed on flatbeds, run an ever-increasing number of metallized pages. The production of booklets and direct mail incorporating these inks has increased in astonishing fashion.

"In printing with aluminum ink on the modern flatbed, semi-rotary, and high speed rotary presses building up of the ink film on the transfer rolls and filling up of the impression plates must be avoided. It is generally known that greater care must be exercised in printing the metallic inks on the cylinder type press than with a job press because too much working is given the ink in transferring it from the fountains to the impression plates. Excessive working of the ink on the rolls and plate will cause the powder to ball up. It is also possible to exert excessive pressure on the transfer rolls and plates causing the powder and vehicle to separate and squeeze out to the edge of the plate and type. For this reason it is possible to use more powder and as a rule it is easier to secure a brighter metallic film with a job press than with a cylinder type.

"In printing with aluminum ink the transfer rolls should have minimum tackiness. New rolls, if not properly prepared or aged, will usually have a degree of tackiness that will have a tendency to prevent the transfer of a uniform smooth film of ink to the plate.

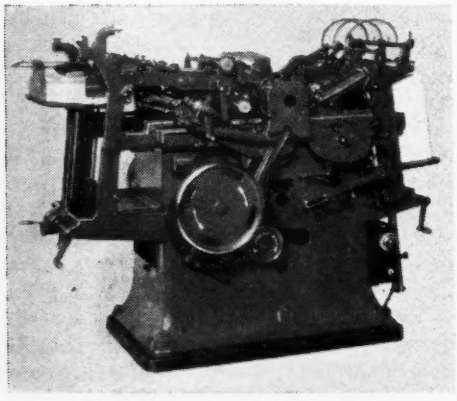
"One of the most important requirements in working with metallic inks is that of proper mixing. The experience covering the finer type of printing shows that best results are obtained when the ink is not allowed to stand for any considerable length of time. Every particle of the metallic base should be surrounded with the supporting vehicle in order to bind the whole together in a hard metallic surface when drying is completed. Where ready-mixed inks are not used, careful mixing and thorough working with a spatula is the best method to produce satisfactory results.

"The use of metallic inks requires frequent press wash-ups. Because of its metallic character, it cannot be forced into

the paper like ordinary oil inks. Even if only a normal amount of ink is carried, it has a tendency to pile-up or accumulate on the rollers, the ink-distribution plate, and on the etched parts of the printing plates themselves. This condition means that the press must be stopped and the plates and rollers cleaned. If not washed-up frequently, the accumulated ink causes a certain squeeze or spreading over the edges of the printing plates which produces an irregular appearance and, of course, interferes with the register where the metallic plates contact other color lines of areas."

New Small Cylinder Press

A new small cylinder press that will handle 70 per cent of the run of the hook in the average job printing establishment



has recently been announced by The Chandler & Price Company.

It has a chase size of 11 by 14, to accommodate sheet sizes from 3¼ by 5½ to 11 by 15, and stock ranging from onion skin to 4-ply cardboard.

It is capable of speeds ranging up to 4800 impressions an hour. It has a variable speed control which is mechanically operated. Stroke of the bed and cylinder is adjustable. Driving mechanism and bed are balanced to eliminate vibration. The bed rides smoothly on self-adjusting hardened roller nests, running in oil, being driven from both sides by rack and gears. Air cushion chambers are used at both ends of the bed.

Distribution is made possible by two form rollers, two large diameter metal vibrators, one small auxiliary metal vibrator, two distributor rollers, one fountain ductor roller and one steel fountain rider roller. Rollers do not reverse on form. Large diameter form roller practically covers full form in one revolution.

Double row of fountain screws gives fine control of ink flow. Fountain screws are numbered to correspond with numbers on the delivery. The fountain roller adjustment provides minimum or maximum flow of ink as may be desired. The fountain automatically trips when the press is not printing. The press can be operated with vacuum line open when inking rollers and form.

Accurate register is afforded by exact handling of stock at every point from feed to delivery. Adjustable drop guides are used for register and gripper margin. Hair-line right or left register is possible at all speeds. The sheet is carried through to cylinder in register and a brush smooths out the sheet on the cylinder.

Sheet-Fed Gravure

In view of the keen competition among the various illustration printing processes, it is interesting to learn that in a recently published book, "The Sword of God," by Guy Endore, Farrar and Rinehart, the New York publishers, have successfully used one of the new processes for printing illustrations.

This book on the Maid of Orleans contains reproductions of paintings, photographs of statuary, old wood cuts and copper engravings. The problem of getting good results from such varying types of copy, some of which would normally have been printed from line cuts and others from halftones, was solved by the use of sheet-fed gravure done by the John C. Powers Co. By this method the fine lines of the engravings were not

broken up by a halftone screen and the line drawings seemed equally sharp and clear. The illustrations were printed on the same antique paper as the text, instead of on coated stock as inserts, and so became an integral part of the book.

Light-Weight Magazines

Linotype Linolite magazines, twenty-two pounds lighter than brass magazines, are announced by the Mergenthaler Linotype Company in the March issue of *The Linotype News*.

"Linolite," runs the Mergenthaler announcement, "is a special alloy as durable and as satisfactory as brass in every respect, with the further advantage of extreme lightness for ease of handling."

Where Care Is Appreciated

At the third Conference of Technical Experts in New York, March 14-15, John H. Davis of Judd & Detweiler, Washington, described the methods used in producing the beautiful *National Geographic Magazine*, "the result of the exacting demands made upon us by the National Geographic Society."

"The type is set on two linotype machines which are kept in the best of condition and upon which extra care is exercised in an effort to make them produce a perfect slug from mats which are constantly under inspection. The galley proofs are carefully pulled, and in the first reading the proofreader inspects them for bad type. Later, when the pages are made up and locked for the foundry, a final inspection is made of carefully pulled proofs, and any defects are corrected.

"Our pages are locked singly for the foundry in perfectly square chases made especially for this job. Steel type-high bearers are used in order to give all possible support to the type when mold impressions are made. Inasmuch as the type would not withstand the pressure necessary for lead molding, which we use in making our lead-mold nickeltypes, we require the making of wax molds of the type section of each page, from which an extra-heavy copper shell is made and backed up with lead to the thickness of the unmounted halftone which appears on the page. Exact space is then provided for dropping in the halftone, which is soldered in proper position. This gives us our so-called 'pattern plate,' which is then carefully inspected for defects and made as nearly perfect as is possible. This pattern plate is carefully preserved and used for making the lead molds.

"Upon these lead molds there is deposited a shell of nickel, which is reinforced by an additional deposit of copper.

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This is done exactly as in making a regular commercial lead-mold nickeltype except that the plate is left in both the nickel and copper baths approximately 50 per cent longer. This does not necessarily give us a better printing plate, but in quantity production this extra-heavy shell cuts down the finishing time. The resulting shell is backed up with lead; straightened or flattened; the first rough shave toward proper thickness taken from the back; finished with extra care for high and low spots; the second shave taken from the back; beveled on two sides; curved to the arc of the cylinder by use of a heated curving machine; the other two sides beveled; and finally the plates are routed to dispose of high spots. The finished plates must run true to thickness to within 0.0005 inch.

"Our plates are put on the press and lined up in the usual way. We use an underlay, which we find essential wherever long runs and high-class work are demanded. The underlay compensates for any slight untrueness in press and plates, and also causes better contact between rollers and plates.

"We employ the 'point sheet' system in makeready. Our overlays are made under the Walker-Cameo Overlay Process. A point sheet and two spot sheets are necessary to produce good results.

"Some years ago we conceived the idea that a rubberized sheeting might serve to advantage as a special packing. After some experimenting with a rubber manufacturer, we developed a product which has been most profitable to us. Not only do we get better work with less total effort, but we are able to get conservatively 25 per cent more impressions from our plates. This type of packing, through its resilience, seems to compensate for any lack of trueness of travel of the press, rather than making it necessary for the plates to suffer this wearing influence.

"After the pressman has done all he can to make the plates in his form print well, a sheet is carefully inspected and marked for defects requiring correction. Oftentimes we find it necessary to make some slight correction in practically every plate in a form, the causes of which evidence themselves only after careful makeready has been completed. This care is costly in the preparation stage, but even if the demands of the finished product were not so exacting, our experience proves that we are more than compensated during the running period when we can run our presses at maximum speed and keep free from annoying delays. During the run, however, we are constantly on the alert for defects, and our finisher is kept busy trimming worn edges on illustrations, repairing worn or battered letters, etc."

Precision in Plate Making

In his discussion on "Need for Precision Measurements" (in plates) at the third Conference of Technical Experts in New York recently Harry A. Groesbeck, Jr., of the Walker Engraving Company said among other things:

"The product of the photoengraver presents many conplexities in relation to this problem of precision, because all rolled plate metal of either zinc or copper is likely to become distorted during the process, and then in many instances he mounts his plates on wood bases which in themselves are usually unstable. The metal used by photoengravers is usually of 16-gauge thickness, which presupposes a micrometer measurement of 0.0625 inch. Scarcely any manufacturer of rolled plate photoengraver's metal will guarantee this accuracy without tolerance through a whole run of sheets. This is not because the metal cannot be rolled accurately, but because the surface after rolling is not as perfect as the photoengraver desires it to be and all sheets must be buffed to remove imperfections, and during this buffing process it seems impracticable to maintain uniformity of sheet thickness. The tolerance required by a metal manufacturer is usually about 0.002 inch over or under. Translating

this into terms of the printer, the variation may amount to as much as four tissues.

"It may be assumed that the photoengraver should be able to compensate for the varying thickness of metal by planing the backs of his blocked plates, and in a measure this corrective step does help; but the great difficulty is that atmospheric conditions may change the thickness of his blocks after they have been planed. This is especially noticeable when plates are not put into forms and printed immediately after the planing process. This difficulty indicates that some material other than wood should be employed as a base. Many experts have been trying to produce such a material, but so far as this writer knows little success has been attained along this line, other than that achieved by one of the manufacturers of precision presses, who has developed a wood composition which he claims to be inert, not subject to change because of atmospheric conditions and susceptible to planing and maintaining its thickness to within 0.001 inch.

"One of the principal difficulties in getting photoengravers to enthuse over some new material to replace the ordinary blocking wood is that some printers literally rip photoengravings off their bases, distorting the metal, pulling the nail heads through the holes, and otherwise abusing the photoengraver's product; and when the photoengraver sees the evidence of such mistreatment, it is small wonder that he does not enthuse about paying a premium of 100 per cent or so for his blocking material in order to turn out a product which will be more accurate in thickness.

"Distortion also occurs in the process of photoengraving because of uneven heating of the plates, setting up stresses in the metal which resolve into deformities. Engravers recognize this, however, and some encouraging progress is being made in the manufacture of heating units which act effectively without distortion of the metal.

"Photoengraved plates which are backed up with electrotyper's metal and shaved to proper thickness do not present the same difficulty as do the plates blocked on wood, provided that the metal has not been distorted before being backed up."

New Type Papers

With the development of some of the newer type papers such as metallic coated, pyroxylin coated, and the like, and also of cellulose acetate wrapping materials, has come a series of problems for the printing ink manufacturer. In most cases, it seems, the ink maker has not been called upon until the printer has worked himself into a jam by trying to use regular inks on these stocks. It has meant an emergency handling of a technical problem by the ink makers, which problem should have been solved in advance through careful and deliberate research work. The fault quite evidently lies with the manufacturers of the new paper stocks. Some of them, to be true, inform ink makers when they are bringing out new products and let them have samples of the new papers to experiment with. But the majority of paper manufacturers fail to keep ink makers posted on new developments in papers which require a parallel development in printing inks. They invite trouble for the printer and for their own products by their lack of cooperation with the ink trade. They place the printer who is called upon unexpectedly to use the new papers, at a marked disadvantage. If all ink makers were supplied with samples of all new type papers or wrapping materials by the manufacturers before they were ready for general sale and distribution, so that the ink problems might be solved in advance, little doubt exists that it would be to the advantage of all concerned. This is a suggestion which it might pay the offending paper manufacturers to think over.

Adhesive Tissue

In view of the discussions at the mechanical conferences and elsewhere concerning the various methods of attaching

cuts to bases—particularly small advertising cuts—readers will no doubt be interested in the following letter from T. P. Beacom, general mechanical counsellor, Hearst Newspapers, says Mechanical Bulletin No. 65 of the American Newspaper Publishers Association.

"We have very successfully used tailor's mending tissue as a substitute for glue, which, as you know, is unsatisfactory for anchoring cuts to the base in the composing room.

"The process is simple and rapid. We cut the tissue to a size a little smaller than the cut, allowing one-quarter to one-half inch margin all around, depending upon the size. This is placed on the base, the heated cut is then placed over the tissue and pressed firmly against the base. That is all there is to it.

"We have used this process with complete success with both stereotype metal and wood bases. The cut is held securely in place during moulding. We have also used cuts mounted by this method on flat-bed press runs as high as five thousand.

"Mr. Charles Mayer, business manager of the San Francisco *Examiner,* recommended this process to us and it has been entirely successful."

The material referred to by Mr. Beacom as "tailor's mending tissue" is known in the trade under various other names, such as splicing tissue, rubber tissue, and gutta percha tissue. It is the material commonly used in paper mills for splicing rolls. For that purpose, it is used in strips three-quarter inch wide and the splice is completed by pressing it with a hot iron. Any dealer in tailor's supplies can no doubt furnish it.

Glucose-Glycol Paste

Since we mentioned in the February issue of The Graphic Arts Monthly that glucose-glycol paste would prevent warping of book covers before or after delivery from the bindery we have received numerous inquiries about the source of supply of this paste; where it may be obtained, etc.; therefore this short repetition:

This paste is not a ready-made product that may be obtained from any particular dealer. It is usually made on the premises or when wanted. The formula is as follows:

	Per cent
Water (added at the start)	30.0
Diethylene glycol	10.0
Beta naphthol	.1
Ammonium alum	.3
Glucose (43° Baumé corn sirup)	25.0
Flour (soft winter wheat)	19.6
Water (from condensation of steam)	15.0
Total	100.0

The equipment used in making this paste should be a regular paste-making machine equipped with mechanical agitation, and it should be fitted with steam connections to allow cooking with live steam.

The first five ingredients mentioned in the formula should be placed in the paste machine and live steam turned in until the glucose dissolves. The agitator is started, and the flour is gradually sifted in. Cooking is continued until the paste becomes quite thick. The paste is then drawn off into containers and allowed to stand until used.

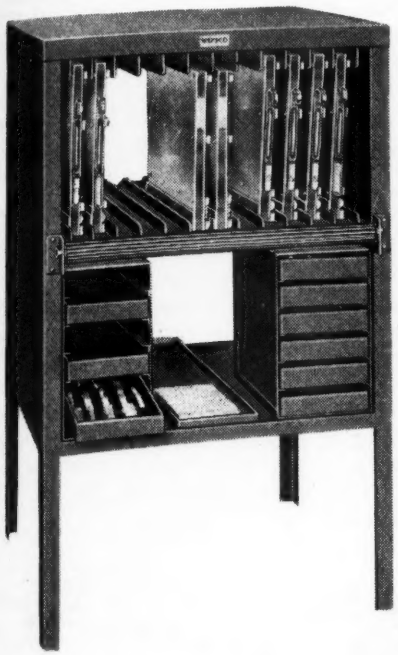
After the paste is removed from the cooker, it will be noticed that some paste adheres to the walls of the cooker and to the agitator. Several buckets of water can be used to remove this paste. This wash liquid is suitable for thinning down the paste for use on the casing-in machines where thinning is necessary.

A light separation of the materials may be noted after the paste has stood for a considerable time. A brisk stirring will reunite the ingredients.

In the formula, the seventh item specified 15 per cent water. This water comes from the condensation of steam during the cooking process. In case live steam is not used for cooking, this 15 per cent of water may be used for making a thin paste of the flour before adding the flour to the other ingredients.

New Magazine Rack

The Western Pipe and Steel Company of Chicago, manufacturers of composing room equipment, is announcing a new magazine rack. The features about this rack that especially attracted our attention were accessibility from the rear as



well as from the front; rubber roller at front and back to protect the bottom of the magazines while slid out and in; sorts trays and cabinets below the magazine rack; accommodation for side magazines. The construction is from electrically welded steel.

Type Set without Human Help

Mr. Buford L. Green, a machinist operator in the plant of the Charlotte *Observer* (North Carolina), recently demonstrated to a group of newspaper publishers how type may be produced in slug form without human effort.

Mr. Green placed a sheet of copy from a specially constructed typewriter on the carriage of his mechanism, which replaces the standard linotype keyboard. A tiny beam of light was focussed on the copy, at the left end of the first line. The switch was thrown and the carriage began to shift the copy to the left until the beam of light had covered the entire line. Simultaneously matrices began to drop from a linotype magazine and the slug of type was cast in the conventional manner.

The movement of the paper proceeded uniformly, line by line, and one slug of seven-point type followed another with regularity; Mr. Green explained that the device was timed for the demonstration to deliver six lines a minute, but that the only limit to its speed was the speed limitations of the linotype machine.

He told how the invention was another adaptation to practical use of the photoelectric cell, sometimes called the electric eye. The beam of light goes through the semi-transparent copy paper, he said, and falls upon the photoelectric cell, which converts the light impulses into electric impulses, which in turn operate the selector mechanism to release the proper matrices from the magazine.

Each letter and symbol on the copy is represented by a combination of dots, ranging in number from one to six. The light impulses are varied as they strike each combination of dots, and the proper action of the matrix-releasing mechanism is guided thereby.

The typewriter is equipped with a special space bar, by which the reporter is guided in writing each line of copy to just the proper length to fill up a line of type material. The typesetting device will take care of short lines, eliminations of portions of lines, and other corrections of that general nature which copyreaders may make.

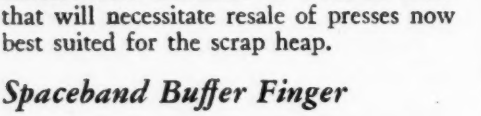
It was demonstrated that any size of type may be used by simply changing a bar to the rear of the special typewriter, that corrections on any line may be made without rerunning the whole copy, and that the matter of short and long lines gave no difficulty.

Will Scrap Old Presses

The Harris-Seybold-Potter Company, manufacturers of offset, rotogravure, and other presses, announces a new policy: that they agree to *scrap* any obsolete machine taken in trade at its true value. The company believes that the printers of the country will welcome a policy of this kind and, furthermore, that the printer buying new machines will not try to nullify it by unreasonable demands in trade-in deals that will necessitate resale of presses now best suited for the scrap heap.

Spaceband Buffer Finger

The Sta-Hi Newspaper Supply Company, Inc., 417 Oregonian Building, Portland, Oregon, offers the Lyons Improved



Spaceband Buffer Finger for linotype machines, which carries a special metallic insert located at the point of impact, where the spacebands strike, thus lessening the shock and usual wear on the spacebands.

The special metallic insert is renewable at a very small cost in case of wear and can, in a few seconds, be changed without tools, thus restoring the upper surface of the buffer finger to normal without renewing the entire structure.

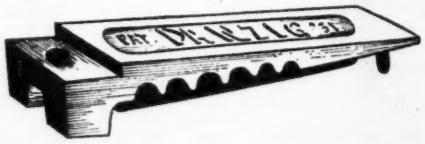
There is a definite improvement in assembling with this new buffer finger, since the spacebands do not drop into a worn hollow as in ordinary buffer fingers.

For Better Electrotypes

Mr. A. R. Flower of the Flower Steel Electrotype Company addressed the Typographers' Association of New York City at the Printing Crafts Club March 24 and told his audience what and what not to do when sending forms to the electrotyper. "With each form, lock up a slug with your firm name on it," he said; "this is for identification. Send a proof of the job to the electrotyper, with all instructions on the proof. Clean forms with benzine or gasoline, do not use any of the greasy compounds which never evaporate. Be sure to have a heavy bearer around the form and, if possible, put in other bearers; they help in securing a sharp impression in the mould as they prevent the wax from sliding. Send original cuts to foundry unblocked when possible. Slugs or quads are the best blocking material. Be certain that all blocking material has an even surface; the moulding press will sink the cut if there is any low material under the cut."

New Danzig Quoin

The Danzig Sales Corporation, 43 Cedar Street, New York City, is marketing a new quoin of drop-forged steel, 3¼ inches long, equipped with the patented "pin and hole." These quoins may be used in single pairs as usual. There is no other quoin on the market of similar character; in fact, it is a new idea and a vast improvement over the old style quoins.



The main superiority is the time saved and the even pressure developed by attaching the quoins together to form trains of two pairs or more. The application of the quoin key in any one pair of quoins in the train automatically operates the entire train. This also assures better alignment, rigidity, etc., in locking forms.

Glue for Felt on Aluminum

One of our readers recently asked us what glue to use for glueing felt or wadding onto aluminum strips. The so-called trimmers' paste is the best for this class of work. It is easy to apply, will stick satisfactorily, and is fairly cheap.

Classified Advertising

The rate for advertising under this heading is $1.00 per agate line per insertion. Average five words to the line.

ADVERTISING

YOU CAN get more Direct Advertising business, if you do good work. Many printers have proved it; they used our "tabloid" house organ service; ask how. 11th year. Sample free. Noble T. Praigg, P. O. Box 471, High Point, N. C.

ART

CATALOG showing thousands of ready made cuts; it is free; write today. Cobb Shinn, 40 Jackson Place, Indianapolis.

BOOKS

TWO VALUABLE HELPS FOR EVERY PRINTER—"Estimating for Printers" and "How to Price Job Printing Properly." Written in understandable printshop English by Edward Gallaway, founder of Printers Estimating School of Chicago. Send for descriptive circular. Printers Estimating School of Chicago, 865 Transportation Bldg., Chicago.

BROADSIDE SEALING MACHINES

THE SPEEDISEALER seals 9,000 pieces per hour. Murphy Specialty Co., 212 So. Third St., Milwaukee.

BUSINESS OPPORTUNITY

FOR SALE — Business established 5 years compiling annually small national directory. No equipment to buy. Can be handled at any location. F. H. Alfele, 736 Lexington Ave., Dayton, Ohio.

EVERYTHING For The SMALL JOB PRINTER
PRESSES--TYPE--EQUIPMENT

GLOBE TYPE FOUNDRY
956-958 W. HARRISON STREET
CHICAGO, ILLINOIS
DEP'T. C SEND FOR CIRCULAR

BUSINESS OPPORTUNITY

MAIL ORDER PRINTING BUSINESS —1 Kluge 10x15 open press, type, 25 in. cutter, $2,000 worth copyrighted special cuts. Going business for 6 years. Outfit to be moved anywhere. Snap for young hustler. I am too old. Williams Printing Co., Aurora, Indiana.

FOR SALE—Printing Ink business running twelve years. Good opportunity right party. Health demands change. Address Box 275, The Graphic Arts Monthly.

CALENDAR PADS

THE SULLIVAN PRINTING WORKS Company, 1058 Gilbert Avenue, Cincinnati, Ohio. Calendar pads now ready for shipment; the best and cheapest on the market; write for sample books and prices.

CALENDARS

OLD FISHERMAN'S CALENDAR, 16th year. Gives best fishing days for 1932. 25c each, 5 for $1.00. H. G. Farr, Box 143 H Sta., Springfield, Mass.

CALENDARS FOR PRINTERS

THE NEW ENGLAND CALENDAR Co., 20 Sudbury St., Boston, Mass., offers to printers a high grade 5c Calendar line for 1933 suitable for every line of business. Write today for particulars.

COMMERCIAL STOCK CUTS

COMMERCIAL STOCK CUTS, over 1000 varieties. Send 10c in stamps for complete catalog. California Electrotype Co., 360 S. Los Angeles St., Los Angeles, Cal.

"A CUT FOR EVERY THOUGHT." Free supplementary catalog of stock cuts. Send for your copy today. The Commercial Cut Co., 20 Vesey Street, N. Y.

REFINERS
SILVER WASTE
GOLD RUBBERS
HYPO SOLUTION

THOMAS J.
DEE & CO.
Precious Metals
55 E. Washington St., Chicago
Plant—317-19 E. Ontario St.

COMPOUNDS

ANTI-OFFSET AND REDUCER will prevent offset, picking and sticking and eliminate slip-sheeting. It will make inks set quickly, will work in all colors and assure clean printing. Write for a free sample. It's great. We also manufacture a complete line of printing inks and printing ink specialties backed by twenty-five years of successful business operations. Hampton Auld Inc., 104-106 Verona Ave., Newark, N. J.—Chicago Office, 525 S. Dearborn St.

MICHENER'S EMBOSSING COMPOSItion, the best made. Try it. 317 Clinton Street, Grand Haven, Michigan.

DECKLE EDGING MACHINES

DOUBLE OR SINGLE HEAD with creasing, scoring and slitting attachments. The Lester & Wasley Co., Inc., Builders, P. O. Box 4, Norwich, Conn.

EASELS

BETTER EASELS make satisfied customers. Ask for prices and samples of sizes interested in. Sta-Set Easel Company, 119 W. Pearl St., Cincinnati, O.

EASELS AND GUMMED SEALS

EASELS FOR WINDOW AND COUNTER CARDS. Seals in various colors for sealing folders, etc. Send for descriptive price list. WESTCOTT PAPER PRODUCTS CO., 1042 Fourteenth Street, Detroit, Michigan.

ENGRAVERS & DESIGNERS

STEEL AND COPPER ENGRAVING, printing and embossing. Hand work only. Superior workmanship. Specializing to the trade. Charles Conner, 134 W. Onondaga St., Syracuse, N. Y.

EQUIPMENT FOR SALE

OVER 200 OVERHAULED guaranteed machines. When ready write, specify machines interested. Real bargains. TERMS. Established 22 years. Hoffmann—Printers, Bookbinder's Machinery, 114 East 13, N. Y. C.

I HAVE A SUBSTANTIAL EQUITY in a Ludlow Caster and Matrices which I am interested in selling at a Discount. If interested please communicate with N. A. Young, c/o Badger Gummed Tape Co., Racine, Wis.

OFFSET PHOTOGRAPHIC, photoengraving, electrotyping, stereotyping equipment. Complete plant or any part. Miles Machinery Co., 482 W. Broadway, New York City.

EQUIPMENT FOR SALE

MODERN EQUIPMENT AT WORTH WHILE SAVINGS—Model 17 and No. 25 Vandercook Proof Presses, rebuilt, as good as new; Miller Universal Saw; Monotype Composition Caster with display type and lead and rule attachments; Ludlow outfit; 2 Model 8 Linotypes, one Model 24; 50" Sheridan "New Model" Automatic Power Cutter; 34" Acme Power Cutter, a dandy; Stokes & Smith Rotary Press; 5-0 Miehle one and two-color presses; Duplex Rotaprint Offset Press; 28x42 Harris Offset with suction feed and chain delivery. And many other remarkable values. Send for latest Broadcaster just out. Thomas W. Hall Company, 1071 Sixth Ave., N. Y.

FOR SALE—2 Roller Backers, 2 Job Backers, 1 28" foot-power Punch, 1 44" Seybold Automatic Cutter, 1 28" Latham Punch, 1 Brown-Carver 30" Power Cutter; Bundling Presses, Stitching Machines, Folding Machines and Cross Feeders. Stolp-Gore Co., 710 W. Jackson Blvd., Chicago, Ill.

"EISMANN REBUILT." Kelly, Kluge, Miller, Chandler & Price, Universal, Laureatte, M-24, Multicolor presses. Power and lever cutters. Proof presses. Portland punches. Joseph F. Eismann, 173 Lafayette St., New York City.

HOE PRESS, 24 page, with Stereotype machinery. Will accept Duplex, Comet, or No. 1A Miehle as part payment. George O. Heffelman, 604 East 12th St., Los Angeles, Calif.

FOR SALE—No. 14, 8 and 5 Linotypes, Kelly Presses, Open and Automatic Jobbers, Cutters, Cleveland, Brown and Baum Folders, Bronzers, Circular Sealing Machines. Allied Printing & Binding Machinery, Inc., 5716 Euclid Ave., Cleveland, Ohio.

MIEHLE PRESSES at bargain prices; No. 4, 56 and 65-inch presses in fine condition; Cleveland and Dexter Folders. Mernagh Ptg. Co., 1602 Locust, St. Louis, Mo.

MODEL 5 LINOTYPE—Perfect condition. Will sacrifice for $950 cash. Everett Brown, 3546 Beechway Blvd., Toledo, Ohio.

2—70" TWO-COLOR MIEHLES with Dexter Suction Pile Feeders and Extension Deliveries. A. W. Robertson, 461 8th Ave., New York, N. Y.

HARRIS PRESS 2 color, S-1 — Sheet size 16x20, D.C. motor. M. M. Rothschild, Inc., 712 Federal St., Chicago.

MAGAZINES, molds, fonts, spacebands, liners, etc., new and used, bought, sold, traded. F. A. Montgomery, Towanda, Pa.

$150 ADDRESSOGRAPH, $65. Will trade. Direct Sales, 57 Mason, Worcester, Mass.

FOLDERS

ECLIPSE 14x19 SUCTION FEED FOLDER; five folds—good cond. $490 with motors. Theatre Prtg. Co., 501 So. Dearborn St., Chicago.

FOLDERS—Used, first-class condition, 25x38", 34x34", 22x32" (Liberty). Write P. L. Haldeman, 615 Chestnut St., Phila.

ECLIPSE 19x25 Folder, like new. A.C. 110-220 v. motor. $185. A. M. Kanaske, 2500 Prairie Ave., Chicago.

HELP WANTED

WANTED—Linotype operators and machinists out of work to handle a fast selling Linotype device. Good seller and guaranteed device. Write for proposition. STA-HI NEWSPAPER SUPPLY CO., INC., 417 Oregonian Bldg., Portland, Ore.

HOTELS

COMING TO CHICAGO? Stop at the Stock-Exchange Hotel, 3872 Cottage Grove Ave. 15 minutes from the Loop. Excellent rooms as low as $.75 per day or $4 per week.

IMPRINTING FOR THE TRADE

CHICAGO IMPRINTING CO., 501 Plymouth Ct., Chicago. Phone Harrison 1405. W. Ingalls, prop.

LINOTYPE ELECTRIC POTS

LUDWICK'S ELECTRIC POTS AND Metal Feeders cost less—last longer. Write for literature. Electric Heating Co., 8616 Madison Ave., South Gate, Los Angeles Co., Calif.

MENU COVERS (CELLULOID)

SANITARY MENU COVERS cost you 60c, you sell at 85c. Send 25c for sample. For $1.50 we shall send you our complete line of **NEW EMBOSSED MENU COVERS.** Sanitary Menu Cover Co., 1011 Blue Island Ave., Chicago.

MISCELLANEOUS

REDUCE MAKEREADY time, wear on forms, strain on press, produce better work with Acme Fabric or Acme Cork Packing Blankets. Guaranteed for service; will not mat, stretch or creep. W. M. Shultz, 117 N. Wells St., Chicago.

OVERLAYS

A PERFECT OVERLAY easy, quick, efficient with Marzio. Write for details. Overlay Mat. Co., 414 N. State St., Chicago, Ill.

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OPERATING PLANT of thermographic products for raised printing desires a partner with capital. Plant fully paid. Will consider selling business including formulas and good will. Address Box 279, The Graphic Arts Monthly.

PARTNER WANTED

$2,000 WILL BUY HALF INTEREST in Job Printing Plant doing $7,000 a year business. $500 cash. Address Box 278, The Graphic Arts Monthly.

PRINTERS ART SERVICE

DESIGN AND CUTS made to order. Write for assortment of free samples. Balda Art Service, Dept. 8, Oshkosh, Wis.

ROLLER BACKERS SELF ADJUSTING

MEYERS SELF ADJUSTING backer saves from $500 to $1000 per year in production costs. L. W. Meyers, 1826 Milwaukee Ave., Chicago.

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PROMPT SERVICE. A. Anderson & Sons, 218-220 W. Kinzie St., Chicago, tel. SUPerior 2728.

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Our new Readco oil resisting material wears longer and prints better. We will teach you how to engrave rubber plates.
REPUBLIC ENGRAVING & DESIGNING COMPANY
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214 N. Sixth St., St. Louis, Mo.
156 Second St., San Francisco, Calif.

SPECIALS

Kelly "B" Special with Extension delivery Miehle Verticals
4 Roller No. 4 Miehle, 29x41 Bed, with Suction Pile Feeder and Ext. Del.
No. 3—4 Roller Miehle, Spiral Drive, Ext. Dely.
No. 1—4 Roller Miehle, 39x53 Bed with spiral drive
No. 00—4 Roller Miehle, 42x56 Bed with spiral drive
14"x22" and 26x38 Colts Cutter and Creaser
8x12 Peerless Unit
10x15 C. & P. with Kluge Feeder
24 Rosback Power Punch
39" Seybold—late style automatic clamp cutter
40" Sheridan New Model Auto Cutter
40" 20th Century Seybold Cutter
Model B. Cleveland Folder with 32 pp. attachment
19x25 Baum Folder Model 289 with Auto. Feeder. Also 14x19 Direct Mail Baum Folder
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Also Complete Line of New Equipment

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718 Sherman Street, Chicago

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HAND ENGRAVED, for use with either oil or water color inks. No patented process involved. Process Rubber Plate Co., 610 W. Van Buren St., Chicago.

RULES (METAL) HAND FINISHED

NEW YORK PRINTERS say our new Two-pt. and Six-pt. Rule, made specially for use with Lino-Tablar matter, is the best they ever used. A trial will convince you. Seventeen 24" or Twenty 20" strips of "Non-Work-Up-Able" Column Rules sent by express for $3. Used from coast to coast. W. E. Taylor Co., 209-219 West 38th St., New York City. Est. 1920.

GIANT CASTER TYPE, hand-finished metal rules, leads and slugs. Send for catalog showing 330 faces metal rules, type and metal furniture. Printers Supply Service, 719 S. Dearborn St., Chicago.

ECONOMY PRINTERS PRODUCTS CO. Manufacturers of Quality rules, leads and slugs 1 to 36 point Elrod Cast, 125 W. Harrison St., Chicago.

SALESBOOKS

TAKE ORDERS for Salesbooks. Cafe Checks, etc. Extensive, superior line; quick service. Easy plan; fine samples. Liberal discounts to responsible printers. Adams Bros. Factory, Topeka, Kans.

SAW SHARPENING

SHARP TOOL SERVICE CO., 5613 West Lake St., Chicago. One 6" diam. blade or smaller, 75c, two 70c each, three 65c each, four 60c each, five 55c each. We pay return postage. Larger than 6" 75c and up. Saws shipped day received. Work guaranteed. Get our prices on new blades.

SAWS

SAWS AND SAW TRIMMERS—Rebuilt—Money Back Guarantee—$15.00 up—all makes. We save you money. Johnson Roller Rack Company, Kalamazoo, Mich., Dept. E.

PRINTERS' BENCH SAWS—$1.00 PER Week. You do not pay for the saw—the **saw pays for itself.** American Mfg. Concern, U. S. 131 at M. C. R. R., Kalamazoo, Mich.

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LEARN LINOTYPE — Best branch of printing business. Correspondence course, with keyboard, $28; practical course, $10 per week. Free catalog. Milo Bennett's School, Toledo, O.

STEEL RULE DIES—DIE CUTTING

WE'D DIE FOR YOU. Also makers of easels, all sizes and shapes in stock. Thayer's Dies, 1220 Maple Ave., Phone PRospect 0554, Los Angeles, Calif.

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SHAVERS, Benders, Saws, Casting Boxes, Routers, Matrix Beaters, Nickel-Steel Outfits. Write for catalogue. Elgin Bending Machine Co., 159 S. Grove Ave., Elgin, Ill.

RELIABLE MAT MOLDING PRESSES, Mat Driers, Conditioned Mats, Mat Storage Boxes, Backing Felt. Printers Mat Paper Supply Company, 559 W. Lake St., Chicago, Ill.

THERMOGRAPHY FOR THE TRADE

ANNOUNCEMENTS, Weddings, Business Cards, etc. Write for catalog. Lowest prices. Quick service. Process Embossing Co., 1220 Maple Ave., Room 901, Los Angeles, California.

TYPE

TYPE—Cast from Ludlow, Intertype, Linotype, Monotype matrices, sizes 8 to 48 pt., including all modern faces. Price list and specimen sheet on request. Frank Mitchell, 209 W. 38th St., N.Y.C.

TYPE-MAKEUP MATERIAL

TYPE, METAL RULE, Borders, Make-up material. Send for catalog. The Jackson Monotype Products Co., 1844 Stout St., Denver, Colo.

TYPE MOLDS

FOR ALL STYLES typemaking machines. Alexander & Cox Co., 2358 Ogden Ave., Chicago. Write Phil. Nuernberger, mgr. mold dept., on mold problems.

VIBRATORS

DIFFERENT in operating principle from any job press vibrator on the market. Complete distribution on all **THREE** form rollers without causing rollers to drag or slur; no drilling. 10x15, $20; 12x18, $22.50; C. & P. Presses (Patented). King Vibrator Co., 476 Roosevelt Ave., Fresno, Calif. Write for literature. Representative dealers wanted.

WANTED TO BUY

WANTED—Miehle Vertical, Cutter, Ludlow, Cleveland Folder, Stitcher, Punch, Wright Drill. Address Box 280, The Graphic Arts Monthly.

WANTED FOR CASH—Bronzer, first-class used or rebuilt to take 20 inch sheet. Write Stanley Mfg. Co., Dayton, Ohio.

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MODERN MACHINES LIKE NEW

TO SAVE MONEY BUY NOW

MACHINERY

for Lithographers, Printers and Folding Box Manufacturers.

Read carefully our listing. You will be convinced we deal only in modern equipment of the highest grade. Learn more about these machines and the low prices at which they are offered.

SPECIAL

We have been fortunate in securing for resale, one of the new No. 3 Miehle two color, sheet 31"x45", 2400 per hour, introduced about 2 years ago. We believe this to be the only used machine of this model available.

OFFSET PRESSES

2—No. 54 Miehle Offsets 38x52" with Dexter suction feeders.
2—Potter Offsets 38x52" with feeders.

CYLINDER PRESSES

1—6/0 Two-color Miehle 52x70" bed.
1—5/0 Two-color Miehle 52x65" bed.
1—3/0 Two-color Miehle 45x62" bed.
1—1/0 Two-color Miehle 43x56" bed.
1—No. 1 Miehle Perfecting Press 40x53" bed.
2—6/0 Miehles 51x68" bed.
2—5/0 Special Miehles 46x68" bed.
2—2/0 Miehles 43x56" bed.
2—No. 1 Miehles 39x53" bed.
1—No. 1 Miehle 39x63" bed. Newspaper press.
1—No. 2 Miehle 35x50" bed.
1—No. 3 Miehle 33x46" bed.
2—No. 4-4R Miehles 29x41" bed.
2—Pony Miehles 26x34" bed.
5—Premiers, 27x40" to 46x65".
1—No. 5 Babcock Automatic Unit 30x43" bed.
NOTE—Feeders and extension deliveries are available for any of the above presses.

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2—Miehle Verticals 13½x20" bed. A. C. motors, gas heaters. Very late machines.
2—Miller Simplex 20x26" Automatic Presses.
1—Miller "Major" Simplex 27x40" Automatic.
2—Style "B" Kellys with extension deliveries, latest models with the large cylinder.
1—12x18" Miller Unit.
1—12x18" Craftsman Kluge Unit.
1—10x15" Miller Unit.

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1—14x22" Colt's Armory Model 6-C.
1—12x18" C. & P. New Series.
4—10x15" C. & P. New and Old Series.

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1—38" Dexter automatic clamp.
1—44" Seybold automatic clamp.
1—44" Dexter automatic clamp.
1—48" Seybold automatic clamp.

MISCELLANEOUS EQUIPMENT

1—24" Portland Multiple Punch.
1—Hill-Curtis Trim-O-Saw.
1—Dexter Folder Model No. 190, 36x48".
1—Model "E" Cleveland Folder 17x22".
2—No. 4 and No. 2 Boston Wire Stitchers.
2—Brightwood Machines.
1—Lot of Warnock diagonal base and hooks.

If you don't see what you want in this list, just write, wire or phone.

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New York office, 225 Varick Street, Tel. Walker 1554
Boston office, 420 Atlantic Avenue, Tel. Hancock 3115

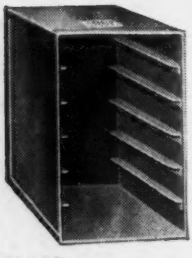
A NEW Magazine Rack by

WEPSCO

No. 1133. This model for Intertype split magazines.

These features will increase your plant efficiency

- Magazines accessible from front or rear.
- Rubber roller facilitates handling while protecting magazines.
- Shelf below for sorts cabinets and other storage.
- Accommodates side magazines.
- All steel electrically welded construction.



Here's A New Sorts Tray Cabinet

WEPSCO quality throughout—yet low priced.

Holds six sorts trays. All are easily accessible and protected from dust and pi-ing.

WEPSCO equipment is adaptable to your individual requirements. Details upon request.

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